

# European Centre for Disease Prevention and Control

**Third independent external evaluation of the ECDC  
in accordance with its Founding Regulation**

September 2019

**Final Report**





# Table of contents

Executive Summary.....	i
Introduction.....	1
Methodological approach .....	5
Evaluation of Relevance.....	7
Evaluation of Effectiveness .....	24
Evaluation of Impact.....	61
Evaluation of Utility.....	67
Evaluation of Added value.....	71
Evaluation of Coordination and Coherence.....	88
Evaluation of Efficiency .....	106
Conclusions .....	139
Recommendations.....	147
Appendices.....	149
Appendix A: Evaluation Matrix .....	150
Appendix B: Methodological approach.....	151
Appendix C: Results of selected desk-research activities .....	152
Appendix D: Implementation of the Common Approach Roadmap.....	153
Appendix E: Stakeholder Mapping .....	154
Appendix F: Public Consultation Results .....	155
Endnotes .....	156

## List of Abbreviations

Acronym	Description
AF	Advisory Forum
AMR	Antimicrobial resistance
ARHAI	Antimicrobial resistance and healthcare-associated infections
CBA	Cost benefit analysis
CCB	Coordinating Competent Body
CDTR	Communicable Disease Threats Report
CHAFEA	Consumer, Health and Food Executive Agency
CPDP	Continuous Professional Development Programme
CRM	Customer relationship management
DG ECHO	Directorate-General for European Civil Protection and Humanitarian Aid Operations
DG DEVCO	Directorate-General for International Cooperation and Development
DG NEAR	Directorate-General for European Neighbourhood Policy and Enlargement Negotiations
DG RTD	Directorate-General for Research and Innovation
DG SANTE	Directorate-General for Health and Food Safety
DP	Disease Programme
EAAD	European Antibiotic Awareness Day
EARS-Net	European Antimicrobial Resistance Surveillance Network
EC	European Commission
ECA	European Court of Auditors
ECDC	European Centre for Disease Prevention and Control
ECHA	European Chemicals Agency
ECHI	European Core Health Indicators
ECHIM	European Community Health Indicator Monitoring
ECJ	European Court of Justice
EEA	European Economic Area
EFSA	European Food Safety Authority
ELDSNet	European Legionnaires' Disease Surveillance Network
EMA	European Medicines Agency
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
ENP	European Neighbourhood Policy
ENPI	European Neighbourhood Partnership Instrument
EP	European Parliament
EPHESUS	Evaluation of EU/EEA public health surveillance systems
EPIS	Epidemic Intelligence Information System
EQA	External Quality Assessments
ESCAIDE	European Scientific Conference on Applied Infectious Disease Epidemiology
ESCMID	European Society of Clinical Microbiology and Infectious Diseases
EU	European Union

<b>Acronym</b>	<b>Description</b>
EUI	European Union Institutions
EULabCap	EU Laboratory Capability Monitoring
EUPHA	European Public Health Association
EQ	Evaluation Question
EVA	ECDC Virtual Academy
EVIPNet	Evidence-informed Policy Network Europe
FRA	EU Agency for Fundamental Rights
FWD	Food- and Waterborne Diseases and Zoonoses
HIV	Human immunodeficiency virus
HSC	Health Security Committee
HSH	ECDC Programme for HIV, STI and viral hepatitis
ICESCR	International Covenant on Economic, Social and Cultural Rights
IMI	Innovative Medicines Initiative
IPA	Instrument for Pre-Accession Assistance
IRV	ECDC Influenza and other Respiratory Viruses Programme
JAP	Joint Action Plan
JAV	EU Joint Action on Vaccination
KPI	Key Performance Indicator
MB	Management Board
MediPIET	Mediterranean Programme for Intervention Epidemiology Training
MEES	Management Board External Evaluation Steering Committee
MEP	Member of European Parliament
MS	Member States
MoU	Memorandum of Understanding
NC	National Coordinator
NEWC	Netherlands Early Warning Committee
NFP	National Focal Point
NGO	Non-governmental organisation
NPHI	National Public Health Institute
OPC	Operational Contact Point
PHP	Public Health Professional
RASFF	Rapid Alert System for Food and Feed
SCHEER	Scientific Committee on Health, Environmental and Emerging Risks
SEQ	Specific evaluation question
SMAP	Strategic multi-annual programme
SPD	Single Programming Document
SSR	Surveillance system reengineering project
TB	Tuberculosis
TBEC	TB Europe Coalition

<b>Acronym</b>	<b>Description</b>
TESSy	The European Surveillance System
ToR	Terms of Reference
UN	United Nations
US CDC	Centers for Disease Control and Prevention of the United States
VE	Vaccines Europe
VPD	Vaccine-preventable diseases
WHO	World Health Organization

# Executive Summary

## Purpose and scope of the Evaluation

The third external evaluation of the European Centre for Disease Prevention and Control (ECDC) was initiated in 2018, in line with the requirements of the Centre's Founding Regulation. The primary objective of the evaluation is to assess the extent to which the Centre has carried out its missions and tasks over the period 2013-2017 (five years), as provided for in its Founding Regulation, but also in Decision No 1082/2013/EU and any subsequent acts with an impact on ECDC's activity during the reference period. The second objective of the evaluation is to assess the need to extend the scope of the Centre's mission to other relevant EU-level activities in the field of public health (based on Art. 31 of the ECDC Founding Regulation), and whether its current structure and organisation can support the integration of new tasks.

The evaluation assesses ECDC's core institutional activities affecting all European Union (EU) and European Economic Area (EEA) Member States (MS) who are addressed in the Centre's legal basis. The evaluation covers the criteria of relevance, effectiveness, impact, utility, EU added value and efficiency. The evaluation findings, conclusions and recommendations are intended to give ECDC and its Management Board, key partners and other stakeholders useful input as to how the Centre's activities can be further improved, delivered more efficiently or, if appropriate, reprioritised. The results of the evaluation may also be used as inputs by ECDC for updating its strategy beyond 2020.

## Approach and Methodology

The overarching analytical approach to the evaluation consists of a systematic approach to the assessment of assumptions underlying a causal chain from inputs to outputs, results and impacts. The data and the evidence used in this evaluation were collected through six main sources of information:

- an extensive in-depth interview programme covering 115 key informants from MS, EU Institutions, International Organisations, ECDC staff and ECDC Governance Bodies members;
- a large questionnaire-based survey addressing ECDC direct stakeholders (507 complete responses received);
- a questionnaire-based online public consultation (30 complete responses received);
- focus groups (three conducted in person in Bulgaria, Lithuania and Spain, one conducted online with EU-level stakeholders);
- country visits to France, Greece, Italy and Romania;
- desk research on relevant documentary sources.

The analysis of the collected data was performed using mixed methods, which ensured that different types of evidence were considered when drawing the evaluation findings and conclusions. Data collection and analysis were carried out between September 2018 and June 2019.

Although the evaluation was performed in line with good practices for public policy evaluations and organisational evaluations, some limitations to the evaluation design and methods should be acknowledged:

- a) The intervention logic model developed for the evaluation was used to operationalise the questions into judgement criteria and indicators, rather than to define them. The model is subject to two additional limitations. Firstly, it is based on the tasks and objectives of the Centre in 2018 and does not capture comprehensively how these have changed over the course of the period under evaluation.<sup>i</sup> Secondly, the model was developed based on desk research and a single consultation activity with members of the Advisory Forum and staff of the Centre. This means that the model may not necessarily reflect the views of other stakeholder groups.
- b) The use of triangulation: The evaluation is a mixed-methods research design, combining primary and secondary sources as well as qualitative and quantitative data. With qualitative methods, the goal is not to ensure statistical significance, but rather to identify themes and to check the coherence and consistency of feedback. The broad reach of the survey activities and the large and diverse sample of purposively recruited interviewees have helped achieve thematic saturation<sup>ii</sup> and minimise respondent bias. Although triangulation with available quantitative and/or documentary evidence was used wherever possible to strengthen the robustness of the analysis, certain findings related to areas for improvement and the

recommendations are based mainly on stakeholder inputs. In such cases, the evaluation team verified that the views were expressed by relevant stakeholders who are reliable sources of information and that the findings/recommendations were validated in focus groups and follow-up interviews with additional stakeholders.

- c) The analytical approach: an *in vitro* evaluation of ECDC (i.e. under research conditions using traditional research standards) is neither feasible nor practical within the resource and time constraints of the exercise. Instead, this evaluation provides a pragmatic *in vivo* ('real-world') dynamic assessment of ECDC in the socio-political context in which it operates, reflecting wherever possible the external influences on the outcomes/impacts of interest to ECDC. The use of more robust analytical methods, such as standard counterfactual analysis and cost benefit analysis, was considered by the evaluation team but ultimately discarded. This is due to the absence of a well-defined baseline situation (prior to the centre's establishment) that could be used to compare it with the status quo and the limitations involved in applying methods used primarily for project evaluations to the broad range of activities provided by the Centre.

### **Main Findings, Conclusions and Recommendations**

Overall, ECDC's activities and outputs under the current mandate of the Centre are found to be relevant for its stakeholders, both at national and EU level, although there is scope to further tailor its activities to individual Member States' needs. ECDC has successfully supported the EU and national policy priority areas and demonstrated the capacity to successfully adapt to policy developments, confirming the relevance of its activities. Nevertheless, a weakness was identified in the Centre's capacity to adapt to changes in the Member States, particularly reduced national public health spending. This consideration should be integrated and applied consistently in existing mechanisms for planning, prioritisation and provision of country support. ECDC should adapt its methodology for cost impact analyses to better capture the impact of its activities on resources used at national level and tailor its activities to existing constraints.

The relevance of the Centre's mandate was considered in terms of its geographical, thematic scope with respect to non-communicable diseases, and legal scope in relation to cross-border threats and preparedness activities vis-à-vis the Commission and Member States.

In terms of the geographical scope of ECDC's mandate, the evaluation found that the Centre's international activities related to the Zika and Ebola crises, the preparedness of the EU to respond to such crises through the European Medical Corps and its support for capacity-building activities in neighbouring countries were relevant for the needs of EU and international stakeholders. However, ECDC's ability to respond to demand for its involvement in international activities is constrained by its limited mandate and resources to engage internationally. The existing EU mechanisms for financing such activities are not effective for addressing these constraints, as the Centre has not been able to use them to cover its staff costs and hire additional staff. Given the identified need for continued ECDC support in third countries, the resourcing mechanisms for such activities should be strengthened.

As regards the Centre's mandate under Decision 1082/2013 EU, ECDC already provides some support to EU activities on health threats that do not originate from communicable diseases. The majority of consulted stakeholders considered that the Centre needs an extended mandate in this area: this would further align it to the all-hazards approach laid down in Decision 1082/2013 EU and build on its strengths in providing risks assessments in public health and its existing contribution to preparedness-related activities.

The analysis finds that an extension of the Centre's mandate in health information, monitoring, determinants, behaviour and promotion would equate to an extension of the mandate into the area of non-communicable diseases. This is an area in need of strengthening at the EU level and the evaluation found that ECDC is a suitable candidate for increasing/centralising such activities in an existing EU agency. Potential advantages include the added value in providing a more permanent, centralised structure and sustainability of results, in comparison to the current approach based on cooperation between the Commission, Member States and other actors through Joint Actions and other project-based structures. Related risks and potential disadvantages of an extension of the Centre's mandate were also identified: these include the potential dilution and drop in quality of ECDC outputs as its tasks expand, as well as an increase in task duplication among other EU Agencies, Commission services or the WHO. The threats and weaknesses for the Centre from an extension of its mandate relate to legal and financial constraints that can be resolved through legislative means.

Given the significant policy changes and expected resource implications of the areas for extension of the mandate, a dedicated Impact Assessment in line with the Better Regulation Guidelines of the European Commission should

be carried out. This could further define the current needs (problems, drivers, consequences) and the corresponding objectives and alternative options.

ECDC has also been effective in the delivery of its activities and tasks over the evaluation period. Although the adoption of Decision 1082/2013 generated additional tasks for ECDC, evidence suggests that the Centre has successfully integrated these tasks into its working methods and deliverables without affecting the tasks assigned to it as part of its Founding Regulation. This was despite the fact that the increase in tasks was not accompanied by additional budget for the Centre.

The high scientific quality of the Centre's outputs and activities was found to be a key positive influencing factor contributing to the effectiveness of its activities, even in new and innovative areas such as whole genome sequencing. The Centre has also effectively disseminated and communicated the results of its work, surpassing its performance indicators for their timely delivery over the evaluation period. This has bolstered the Centre's reputation for scientific excellence amongst its stakeholders and increased demand for its services, including its technical assistance services. In addition, it has correlated with a high level of use of its outputs at both the EU and national levels, especially as inputs to inform decision-making processes. Concurrently, the Centre saw an increasing visibility and impact factor of a number of its outputs across traditional and social media sources. This has contributed to higher awareness, especially amongst policymakers and in key priority areas such as antimicrobial resistance, vaccination and vector-borne diseases. Nevertheless, it was found that the effectiveness of its outputs could be strengthened by increasing awareness amongst public health professionals and the media across Europe.

ECDC's tools for surveillance are effective for the collection, validation, analysis and dissemination of data and they promote harmonisation and coordination among Member States. The Epidemic Intelligence Information System (EPIS) tool, as well as the Centre's outputs such as Rapid Risk Assessments and Round Table Reports are effective sources of epidemic intelligence for Member States. This has added considerable value for Member States and contributed to the prevention, control and response to disease outbreaks. However, the evaluation found gaps and variations in Member States' obligatory surveillance reporting for a number of diseases, as well as variable participation in the EPIS tool. ECDC should provide additional support (e.g. training) to Member States with low reporting frequency and its mechanisms for ensuring consistent and systematic surveillance reporting should be strengthened accordingly. The effectiveness of the surveillance data collected via the European Surveillance System (TESSy) could also be strengthened through further involvement of Member State experts.

The evaluation identified these as negative factors in the relevance and effectiveness of the Centre's activities for the Member States. Specifically, the Centre demonstrated a weak capacity to assess and consequently adapt and tailor its activities to the diverse contexts and needs of Member States over the evaluation period. Consequently, ECDC should streamline all areas of its work and focus on addressing structural gaps and deficiencies in Member States' public health systems, which hamper their ability to effectively contribute to and optimally benefit from ECDC's activities.

At the same time, ECDC's coherence and coordination with other relevant bodies improved over the evaluation period. In particular, evidence shows that the Centre has successfully increased its level of coordination with WHO, WHO GOARN and other relevant EU Agencies such as EMA, EFSA and EMCDDA. This has had positive implications for its alignment with EU health objectives (e.g. the One Health approach) as well as reducing duplicate tasks. However, further synergies should be sought between the Centre and Joint Actions funded under the EU Health Programme.

Overall, the evaluation found that the Centre has been efficiently managed, with improvements in managing resources in order to deliver its activities more efficiently, despite influences from external factors outside of the Centre's control. Areas for improvement include better cooperation between the ECDC Management Board and Advisory Forum, introducing performance indicators to improve monitoring at the outcome and impact levels and strengthening the mechanisms for ensuring the follow-up on recommendations resulting from internal evaluations. In addition, ECDC should continue to improve the efficiency of its planning processes by reviewing and reporting on its activity-based budgeting and costing in a systematic manner, and ensuring that both activities for prioritisation and deprioritisation are taken into account during the elaboration of the annual work programme.

# Introduction

The present report constitutes the Final Report for the third independent external evaluation of the European Centre for Disease Prevention and Control (ECDC). The Centre's founding regulation (Regulation (EC) No 851/2004 of the European Parliament and of the Council of 21 April 2004 establishing a European Centre for disease prevention and control) calls for an independent and external evaluation of ECDC once every five years. Five years have passed since the previous (second) evaluation, necessitating the initiation of the third external evaluation in 2018.

The evaluation is primarily an assessment of the extent to which the Centre has carried out the whole scope of its mission and tasks over the period 2013-2017 (five years). The evaluation assesses the following evaluation criteria:

- 1) the relevance of ECDC's activities and outputs for its key stakeholders in relation to its core objectives, as defined in its legal mandate;
- 2) the effectiveness of ECDC's outputs and activities in achieving its objectives;
- 3) the impact of ECDC's interventions on its key stakeholders;
- 4) the utility of its activities for its stakeholders and partners;
- 5) the added value and improvements which result from the Centre's interventions;
- 6) the Centre's coordination and coherence with other relevant bodies in its field of activities;
- 7) the efficiency with which it has carried out activities to achieve its objectives.

The evaluation also assesses the need to extend the scope of the Centre's mission to other relevant, EU-level activities in the field of public health (based on Art. 31 of the ECDC founding regulation) and whether the ECDC is ready and able to integrate new tasks given its current structure and organisation.

The geographical scope of the evaluation spans Member States of the European Union and European Economic Area that are addressed in the legal basis for the Centre.

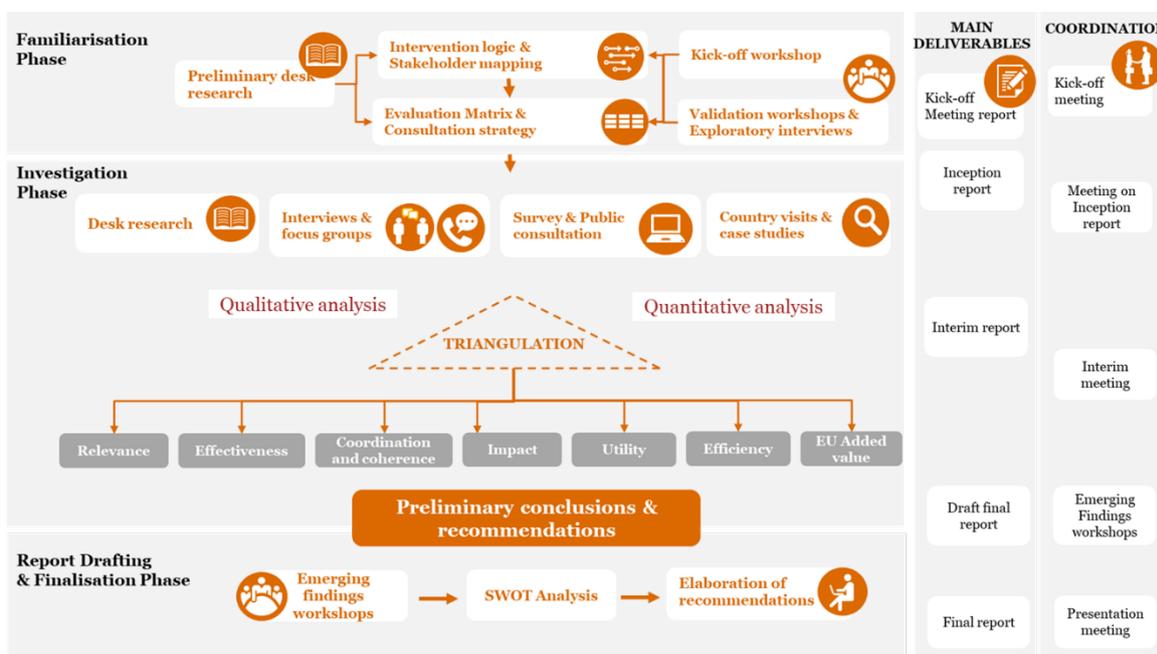
The temporal scope for the evaluation is 2013-2017. However, a number of data collection activities are based on stakeholder input that reflects views on the Centre in 2018-2019. Therefore, in practice, some elements of the evaluation will reflect the situation beyond 2017.

The evaluation takes into account the findings of previous and ongoing evaluations of specific ECDC activities, starting with the second external evaluation, which covered the Centre's activities between 2008 and 2012. Specifically, evidence collected under the second external evaluation has been used, where relevant, as a baseline for the assessment of the Centre's performance since 2013. Other evaluations - such as the evaluation of ECDC's Disease Programmes, the organisational review of ECDC, the Evaluation of EU/EEA public health surveillance systems (EPHESUS) evaluations, the evaluation of ECDC's Fellowship programme and the evaluation of ECDC's Document Management System - were taken into account in the planning and design of the third external evaluation of the Centre. This was done to avoid inefficiencies and duplication, as well as to ensure that there was no undue burden on stakeholders to provide evidence that was already available. Consequently, the evidence and conclusions from the previous and ongoing evaluation work were used to the extent possible and where relevant during the data analysis of the third external evaluation of the Centre.

# Methodological approach

An overview of our proposed methodological approach and tools for conducting this third external evaluation of ECDC is depicted in Figure 1 below.

Figure 1: Methodological approach overview



The overarching analytical approach to the evaluation is that of a theory-based evaluation, a systematic approach to the assessment of assumptions underlying a causal chain from inputs to outputs, to results and impacts. A theory-based evaluation relies on the development of an intervention logic model, which depicts the sequence of causal links between the activities developed, the outputs, results and final impacts of the evaluated intervention. Each evaluation criterion is operationalised through a set of evaluation questions (EQs), organised within an evaluation matrix (see Appendix A). The matrix has been developed based on the questions listed in the Terms of Reference through which the evaluation was commissioned.

The evaluation was implemented through mixed methods, which ensured that different types of evidence are considered when drawing the evaluation findings and conclusions. The evaluation team collected and analysed both secondary and primary data through desk research, interviews with stakeholders, focus groups, country visits, a targeted survey and an open public consultation. Feedback from the different consultation activities has been integrated for the purpose of the analysis, with differences between the feedback from different sources or different types of stakeholders highlighted where relevant.

## Approach to reporting on consultation feedback

Consultation feedback collected via the closed questions of the different survey activities has been presented in figures, showing the allocation of responses in different categories in percentage of the total. The qualitative analysis of the data also refers to the percentage values or uses terms like “majority” or “most of” in order to refer to responses provided by more than 50% of the respondents.

Where clarifications of the survey responses, areas for improvement and potential solutions are identified on the basis of stakeholder opinions collected through the interviews and open survey questions, the evaluation team made an individual assessment for each question on the sufficiency and reliability of the underlying views, also taking into account the relevant weight to be given to different stakeholder groups. The magnitude of the evidence for the analysis is qualified on the basis of the evaluators’ judgement (e.g. “according to some/multiple stakeholders”) rather than quantified.

More details on the methodological approach and further explanations of the limitations of different data collection and analysis methods summarised in the following paragraphs are available in Appendix B.

### **Limitation in the use and development of the intervention logic model**

The intervention logic model developed for the evaluation was used to operationalise the questions into judgement criteria and indicators, rather than to define them. The model is subject to two additional limitations. Firstly, it is a model based on the tasks and objectives of the Centre in 2018 and does not capture comprehensively how these have changed over the course of the period under evaluation.<sup>3</sup> Secondly, the model was developed on the basis of desk research and a single consultation activity with members of the Advisory Forum and staff of the Centre. This means that the model may not necessarily reflect the views of other groups of stakeholders.

### **Limitation in the use of secondary data**

The evaluation is a mixed-methods research design, combining primary and secondary sources, and qualitative and quantitative data. With qualitative methods, the goal is not to ensure statistical significance, but rather to identify themes, and to check the coherence and consistency of feedback. The broad reach of the survey activities and the large and diverse sample of purposively recruited interviewees have helped achieve thematic saturation<sup>4</sup> and minimise respondent bias. Although triangulation with available quantitative or documentary evidence has been used where possible to strengthen the robustness of the analysis, certain findings related to areas for improvement and the recommendations are based mainly on stakeholder inputs. In such cases, the evaluation team has verified that the views are expressed by relevant stakeholders who are reliable sources of information and that the findings/recommendations have been validated in focus groups and follow-up interviews with additional stakeholders.

Although secondary sources and quantitative data and methods specifically have referred to as much as possible, for a small number of evaluation questions it was not possible to identify relevant indicators or proxy measure that relate to secondary (quantitative) sources. This concerns the questions about the factors impacting the centres' effectiveness, impact and added value. For such exploratory questions, the evaluation could not identify concrete indicators from secondary sources. Instead, the analysis focuses on synthesising the findings developed under other evaluation questions, developed in line with the triangulation approach described above.

### **Limitations for the consultation activities**

There are some inherent limitations in the scope of the consultation activities:

- To limit the risk that some relevant stakeholders were not included in the sample of interviewees, the stakeholder groups to be interviewed were verified by the Steering Committee. In addition, the use of other types of consultation activities (i.e. surveys and a public consultation) were used to provide the opportunity for all key stakeholders to provide input to the evaluation.
- The targeted survey aimed to collect as many responses as possible, but it will remain constrained by the issue of self-selection bias, since the respondents cannot be obliged to complete it.
- The public consultation resulted in a low number of responses in total and from representatives of the general public. However, this is in line with the results of the other public consultations for evaluations of EU Agencies and can likely be linked to lack of awareness of the general public of their work, given that they are not a primary target group for EU Agencies. The results of the public consultation are generally in line with those of other consultation activities and have not been reported on individually, unless relevant for the purpose of the analysis.

### **Limitations for the analytical methods**

Potential limitations to the analytical methods are described in the respective sections of the report. In summary:

- The use of a counterfactual analysis based on quantitative experimental designs was considered by the evaluation team, but discarded on grounds of the difficulties to implement such an approach in the context of EU policy assessments. Instead, a qualitative approach was used to identify the added value of the centre, by applying a non-experimental design based on a logically constructed counterfactual and key informant assessments. In addition, although it was not possible to construct a baseline for comparison, steps were taken to analyse the situation before ECDC was established.<sup>5</sup>
- Similarly, the application of a standard CBA method to the case of the Agency and comparing the current situation with a baseline or with alternatives was considered by the evaluation team, but discarded based on the limitations involved in applying methods used primarily for project evaluations to the broad range of activities provided by the Centre. Instead, an alternative CBA-inspired approach (the Spend-Outcome tool) has been used to assess whether ECDC has invested its resources efficiently.

An *in vitro* evaluation of ECDC (i.e. under research conditions to traditional research standards) is neither feasible nor practical within the given resource and time constraints. Instead, this evaluation provides a pragmatic *in vivo* ('real-world') dynamic assessment of ECDC in the socio-political context that it operates in. A 'real-world' limitation for any evaluation is that the outcomes of ECDC may have multiple external determinants that influence, modify or indeed nullify its impacts, for example contaminating effects of media outputs, or the actions of other agencies and actors. Wherever possible, where there is data available, these external influences on the outcomes/impacts of interest for ECDC have been identified. However, it should be acknowledged that it may not be possible to identify all of these external influences or to measure the magnitude of their effect.

# Evaluation of Relevance

**EQ1: To what extent are the tasks and outputs of the Centre relevant to continue implementing existing obligations under the Treaties, the EU legislative framework, including Decision 1082/2013/EU on serious cross-border threats to health, and other international public health legislation, such as the International Health Regulations (IHR 2005) which the EU and/or its Member States adhere to?**

**SEQ 1.1** *To what extent are the tasks and outputs of the Centre relevant to continue implementing existing EU or international legal obligations for the EU and/or its Member States?*

The importance of health policy as a European Union priority can be found in Article 168 of the Treaty of Lisbon: “Union action, which shall complement national policies, shall be directed towards improving public health, preventing physical and mental illness and diseases, and obviating sources of danger to physical and mental health. Such action shall cover the fight against the major health scourges, by promoting research into their causes, their transmission and their prevention, as well as health information and education, and monitoring, early warning of and combating serious cross-border threats to health.”<sup>6</sup>

Although primary responsibility for health protection remains within the competence of Member States, the EU plays an important role in improving public health by contributing to the prevention and control of diseases, mitigating sources of danger to human health and harmonising health strategies and standards between Member States.<sup>7</sup>

Regulation 851/2004<sup>8</sup> (the Founding Regulation) and Decision 1082/2013/EU on cross-border threats to health,<sup>9</sup> are the primary legal basis for the activities of ECDC at present. Detailed analysis of the effectiveness of ECDC in implementing its current tasks, including specifically under Decision 1082/2013/EU are addressed under the analyses of effectiveness and added value. The overall positive assessment of these criteria signifies the relevance of the Centre’s activities for the objectives of EU policy and needs. The relevance of the Centre’s activities in emerging areas of interest for the EU and Member States is discussed under SEQ 1.2 – 1.4.

The EU and its institutions, in particular ECDC, also have a role to play in supporting the implementation of **international obligations** in the area of public health, such as the International Health Regulations and the United Nations International Covenant on Economic, Social and Cultural Rights.

The **International Health Regulations (IHR)** are an international legal instrument that is binding on 196 countries across the globe, including all the Member States of the EU. The aim of the IHR is to help the international community prevent and respond to acute public health risks that have the potential to cross borders and threaten people worldwide. Specifically, the revised IHR (2005), which entered into force on 15 June 2007, require the development, strengthening and maintenance of capacities to detect, assess, notify and respond to any public health emergency of international concern and to report public health events to WHO.<sup>10</sup> Supporting EU Member States’ efforts to step up preparedness and strengthen core capacities under the IHR is a key priority of the European Commission. In the EU context, the IHR are addressed through Decision 1082/2013/EU on serious cross-border threats to health and through policies and legislation in areas including animal health, food safety, civil protection, humanitarian aid, research, environmental law, border controls (including the Schengen agreement), radioprotection and global health development programmes.<sup>11</sup> ECDC’s support to the implementation of the IHR at Member State level and for the EU as a whole is mainly in the area of preparedness. Through ECDC tools like EPIS and the EWRS, ECDC provides support to coordination between neighbourhood countries in case of cross-border threats (see analysis under EQ 4.5 and 4.2), which is key for the implementation of the IHR legal obligations. ECDC also participates in the Joint External Evaluation on IHR, upon invitation by the WHO, which is coordinating the project.<sup>12</sup> The stakeholders consulted for this evaluation were generally appreciative of the relevance of ECDC’s work to support the implementation of their IHR obligations. Analysis of the scores of country scores on the IHR index for public health capacities over the years under evaluation shows that the average score of EU/EEA Member States has increased substantially (see analysis under EQ 11.1).

Article 12 of the **United Nations (UN) International Covenant on Economic, Social and Cultural Rights (ICESCR)** contains ‘the right of everyone to the enjoyment of the highest attainable standard of physical and mental health’. The Member States, who have ratified this, therefore commit to provide access to quality essential healthcare services, and access to safe, effective, and affordable medicine and vaccines for all. In connection to this, Brigit Toebes (2012)<sup>13</sup> argues that by including a right to health (care) and other health-related rights in the European Charter on Fundamental Rights, the European Union has committed itself to submitting its laws, policies, and those of Member States to the

protection of health-related rights. However, Toebes argues that not enough is being done in the fields of international health threats and the protection of human health. These are areas where ECDC currently has a more limited scope of activities. The consultation activities carried out for the evaluation also show that there is lack of consensus on whether ECDC is expected to contribute to public health outcomes at the global level, but as discussed under SEQ 1.3, there is strong evidence of the relevance of the Centre’s international activities for stakeholders both within and outside of the EU.

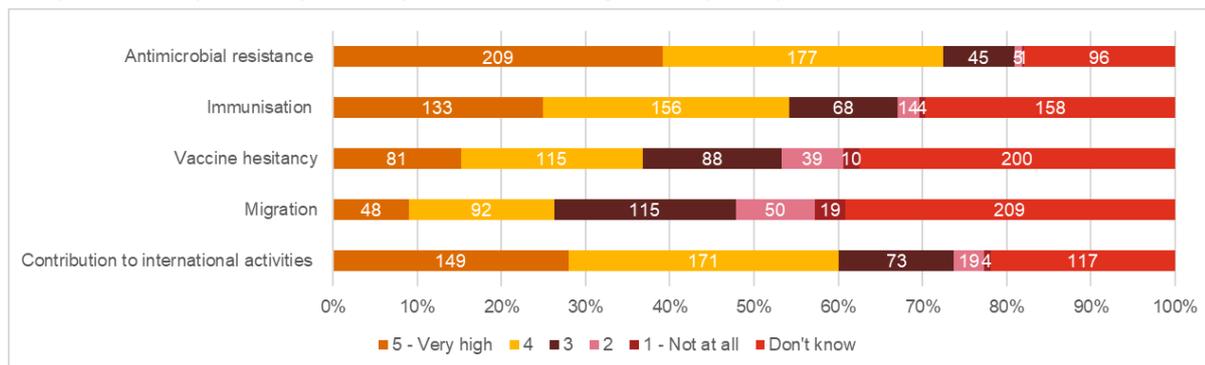
Another aspect of the right to health that has seen an increased level of discourse in recent years focuses on migrants’ right to health. The EU Agency for Fundamental Rights has raised the issue of health protection amongst migrants. It is argued, that migrants should as a minimum be entitled to necessary healthcare services, which include basic health needs such as the receipt of appropriate medicine.<sup>14</sup> In this area, ECDC has supported MS, for example, through the development of evidence-based guidance for the prevention of infectious diseases amongst newly arrived migrants to the EU/EEA zone.<sup>15</sup> As discussed under SEQ 1.2, a review of Eurosurveillance publications focusing on migration-related subjects shows that they have been increasing over the period under evaluation and are assessed positively by respondents to the survey.

**In summary, ECDC’s work is found to be relevant for the implementation of the existing obligations for the EU and Member States under EU and international law in the area of public health, in particular the obligations in the area of preparedness laid down in the International Health Regulations.**

*SEQ 1.2 To what extent have ECDC’s tasks and outputs proved relevant and essential<sup>16</sup> for the needs of EU policies and key political priorities of the Union, such as, but not limited to, antimicrobial resistance, immunisation including vaccine hesitancy, migration and contribution to international activities?*

The relevance of ECDC’s work was specifically assessed in the areas of AMR, immunisation, vaccine hesitancy, migration and contribution to international activities through different data collection activities.

*Figure 2 To what extent have ECDC’s tasks and their outputs proved to be relevant for the key political priorities of the European Union, particularly with respect to the following areas? (n=533)*



**Antimicrobial resistance** has been an area of EU-level activity since the 1990s, with the 2001 Council Recommendation on the prudent use of antimicrobial agents in human medicine proposing a number of specific measures to be implemented by the Member States to contain the spread of antimicrobial resistance.<sup>17</sup> The topic has been high on the ECDC agenda both under the 2009-2013 Multiannual programme<sup>18</sup> and the 2014-2020 one<sup>19</sup>, in particular through the activities carried out under the Disease Programme for Antimicrobial resistance and healthcare-associated infections (ARHAI). Budgetary resources for the ARHAI programme increased by 7.5% between 2013 and 2017 and the human resources by 17.5%.<sup>20</sup>

One of the key indicators of the relevance of ECDC’s work for EU policy development is the extent to which policymakers refer to ECDC outputs as the evidence-base in policy documents. A review of policy documents by the European Commission, Council and Parliament in the area of AMR (see Appendix C) shows that all identified documents contained multiple references to ECDC outputs. Frequent references were made to the ECDC/EMA Joint Technical Report: The bacterial challenge: time to react,<sup>21</sup> the ECDC Report on the surveillance of antimicrobial resistance in Europe and the Surveillance report — Point prevalence survey of healthcare-associated infections and antimicrobial use in European long-term care facilities.<sup>22</sup>

Stakeholders’ satisfaction with the relevance of the priorities selected for the programme stood at 86% and 88% respectively for 2014 and 2015, above the average of 85% and 87% across all disease programmes.<sup>23,24</sup> The assessment of relevance obtained through the targeted survey for this evaluation was similarly positive - as can be seen from Figure 2, 72% of the surveyed stakeholders assessed the relevance of ECDC’s activities in the area of

antimicrobial resistance as high or very high. Almost 50% of these offered concrete examples of relevant activities, most often referring to the European Antimicrobial Awareness Day (EAAD), which addresses the need to raise awareness of the topic with a common approach at EU level. Further evidence of the relevance of ECDC's activities for the EAAD is demonstrated by the fact that non-EU actors have joined the initiative, in particular the WHO, which started a World Antibiotic Awareness Week in 2015. Other examples of activities of high relevance are the One Health Action plan and the activities of EARS-Net. EARS-Net, as repeatedly mentioned by consulted stakeholders, allows Member States to better understand what their antibiotic consumption profiles are and generates a clear overview of the needs within Europe to inform policy-making decisions. A recent European public health market assessment carried out by McKinsey & Company (2018) also concluded that ECDC's prioritisation and activities in the area of antimicrobial resistance will remain relevant looking forward in terms of the European public health context (e.g. in terms of changes to the health system and population behaviours).<sup>25</sup>

**Vaccination hesitancy and immunisation** coverage are a horizontal theme across a number of disease programmes, but involve primarily Vaccine Preventable Disease Programme (VPD), the Influenza and other Respiratory Viruses Programme (IRV) and other programmes (HIV, Sexually Transmitted Infections and viral Hepatitis (HSH)). In response to the growing interest in the area, the resource allocation to the VPD programme has grown by 11.7% between 2013 and 2017 and the human resources by 26.6% (for further analysis of the effectiveness of ECDC activities in vaccination see SEQ 4.5).<sup>26</sup> A review of policy documents by the European Commission, Council and Parliament in the area of immunisation and vaccine hesitancy (available in Appendix C) shows that ECDC outputs are frequently referred to as evidence base. The reviewed documents frequently referred to the ECDC Vaccine Scheduler<sup>27</sup> and the ECDC Catalogue of interventions addressing vaccine hesitancy.<sup>28</sup> Furthermore, ECDC contributed to the Commission's work on preparing the proposal for Council Recommendation on strengthened cooperation against vaccine-preventable diseases.<sup>29</sup> 84% and 83% of respondents to the ECDC 2014 and 2015 stakeholders' satisfaction surveys reported being satisfied with the relevance of the priorities selected for the VPD programme respectively, above the set target of 80% in both years.<sup>30</sup> The assessment of immunisation related activities was also high among the majority of respondents to the targeted survey carried out for this evaluation. The most frequently mentioned examples of ECDC activities that are essential for the key political priorities in the Union in terms of immunisation are the 'European Immunization Week' campaigns, as they raise awareness amongst the public, and the Vaccine Scheduler provided by ECDC. In contrast, only about half of the respondents familiar with the topics of vaccine hesitancy activities (i.e. excluding those who don't know them) provided a high assessment of their relevance. Out of these, 25% were able to provide examples of outputs that were essential. The examples included the technical reports on seasonal influenza vaccination in EU/EEA MS, which were reported by consulted stakeholders to have helped discussions on a European level and have been used by national stakeholders to develop strategies to overcome vaccine hesitancy (for additional analysis, see SEQ 4.5). The European public health market assessment carried out by McKinsey & Company (2018) also concluded that ECDC's prioritisation and activities in the area of immunisation will remain relevant looking forward in terms of the European public health context.

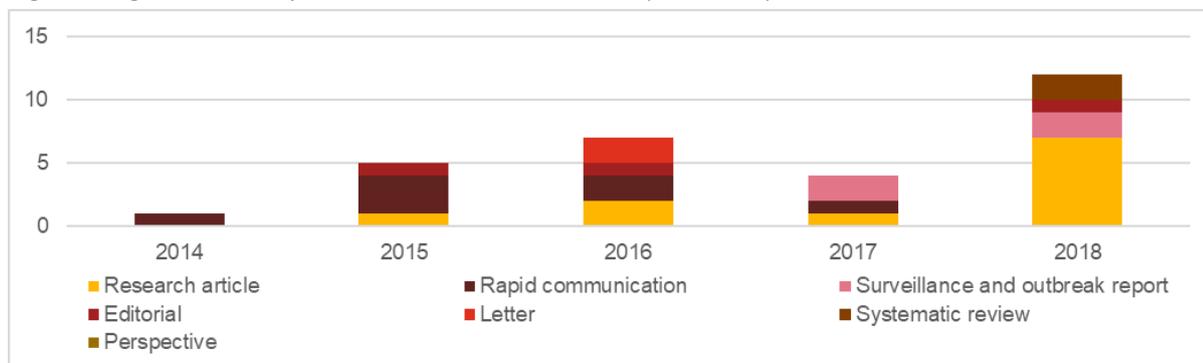
In the area of **international activities**, ECDC's Founding Regulation provides a legal basis for the Centre to act beyond the EU borders on the request of third countries or international organisations in situations where communicable disease outbreaks may threaten the health of people living in the EU and the health of EU citizens living abroad.<sup>31</sup> ECDC's International Relations Policy sets the framework for ECDC's activities with EU candidate and potential candidate countries, European Neighbourhood Policy (ENP) partner countries, other third countries and EU institutions and international organisations.<sup>32</sup> A number of these activities are carried out under grants provided by the European Commission (see EQ 5). Activities related to the response to outbreaks can be highlighted - in 2014 and 2015, ECDC contributed to the international outbreak response operations in Guinea. In its own evaluation of the work carried out, ECDC concluded that the activities provided value by mobilising highly qualified epidemiologists for outbreak response in the field.<sup>33</sup> This was also supported by the Commission's analysis of the role of ECDC<sup>34</sup> and representatives of different Member States in the 2015 Conference on Lessons learnt for public health from the Ebola outbreak in West Africa.<sup>35</sup> In addition, in 2016 DG ECHO already expressed interest in developing more active cooperation with ECDC to address such threats after the outbreak.<sup>36</sup>

The above findings were supported by the feedback received from consulted stakeholders under the current evaluation. Close to 60% of the survey respondents gave a positive assessment of the relevance of ECDC's international activities. The examples of relevant ECDC activities were identified such as its support to the international health response to the Ebola outbreak in Africa<sup>37</sup> and the ongoing support to international response activities through the Fellowship programme participants' involvement in missions abroad in connection to the Ebola and Zika outbreaks. Stakeholders from international organisations, EU agencies and NGOs, who were interviewed for the purpose of this evaluation, nonetheless noted that the relevance of ECDC's contribution can be considered limited when compared to the international activities of the US CDC, although the latter has a much broader mandate in this area.<sup>38</sup>

The evaluation nevertheless found that the ability of ECDC to respond to demand for its involvement in international activities is limited by constraints in the agency's ability to dedicate human resources to these tasks. A review of resource allocation to these activities over the evaluation period shows that the ECDC human resources involved in such activities have increased substantially, from 0.5 FTE in 2013 to 4.8 in 2017,<sup>39</sup> but over the years there have been several cases where ECDC could not provide the support required by the European Commission in international activities due to resources constraints. For example, official communication between DG ECHO and DG SANTE states the wish of the former "for further ECDC involvement and support in external relief missions and more generally in the European Medical Corps [in order to] link internal EU policies with external action."<sup>40</sup> As can be seen SEQ 4.4, ECDC's involvement in the response to the Ebola and Zika outbreaks led to it having to postpone other planned activities in the areas of its core activities. Another example where ECDC's involvement in international assignments was constrained is the MediPIET project. According to representatives of the Commission and ECDC, the Centre could not take lead in the second phase of the project because of resource constraints. The limits of ECDC's resources for international activities were also highlighted in correspondence from DG SANTE to DG ECHO and DG DEVCO on this subject.<sup>41</sup> According to Article 9 of its Founding Regulation, "where the financial capacity of the Centre is not adequate to deal with [third countries' or international organisations'] request [for technical or scientific assistance], the Centre shall assess the request and explore possibilities for response directly or through other Community mechanisms. However, the experience in the above cases demonstrates that the existing mechanisms for providing funding for extra-EU activities of the Centre are not sufficient for providing the Centre with the additional capacity needed as they cannot be used to finance staff resources. This was confirmed in interviews with representatives of ECDC and the European Commission (DG SANTE, DG NEAR, DG DEVCO and DG ECHO).

The importance of public health in the context of **migration** has also grown over the period of the evaluation, given the major increase in the number of migrants and refugees since 2015.<sup>42</sup> The survey results show that the consulted stakeholders considered that ECDC's outputs in the area of migration are the least relevant for addressing key political priorities. This is at least partly due to some Member States being less impacted by developments in this area and therefore less aware of related ECDC activities. One of the activities highlighted by consulted stakeholders who gave a positive assessment of ECDC's work in this area was Eurosurveillance as a channel for dissemination of evidence-based guidance related to migration<sup>43</sup>. A review of Eurosurveillance publications focusing on migration-related subjects shows that they have been increasing over the period under evaluation.

Figure 3 Migration-related publications on Eurosurveillance (2014-2018)<sup>44</sup>



**In summary, the assessment of the relevance of ECDC's outputs and activities for the needs of EU policy and priorities in the areas of AMR, immunisation, vaccine hesitance, international activities and migration is positive. Stakeholder views and documentary evidence of the productivity and usefulness of ECDC outputs in the considered areas indicates the Agency has managed to provide outputs that reflect growing/emerging areas of interest and need for its stakeholders. In the area of international activities, there is evidence of the need for the Centre's input in the cases of the Zika and Ebola crises, the preparedness of the EU to respond to such through the European Medical Corps and its support for capacity building activities in neighbouring countries. However, ECDC's ability to respond to demand for its involvement in international activities is constrained by its limited mandate and resources to engage internationally and the existing Community mechanisms for financing such activities are not satisfactory for addressing these constraints.**

**SEQ 1.3 To what extent have ECDC's tasks and outputs proved relevant to the needs of all key stakeholders in Member States and among other EU institutions or to a certain number of them?**

ECDC's Communication Strategy (2016-2020) defines four primary target audiences for ECDC – health professionals, policymakers, health communicators and the media<sup>45</sup>. The analysis of ECDC's relevance for key stakeholders also distinguishes between EU, national and regional policy makers and considers ECDC's relevance for scientists and for the general public. The analysis is primarily based on qualitative data from the consultation activities, as the

stakeholders in the respective categories are best placed to assess the extent to which ECDC’s work addresses their needs. Secondary data indicators mainly refer to the use of different outputs as a proxy for their relevance<sup>46</sup>.

Figure 4 To what extent have the ECDC’s tasks and outputs proved to be relevant to address the current needs (addressing climate change, antimicrobial resistance, vaccine hesitancy, globalisation) of the following stakeholders? (n= 534)

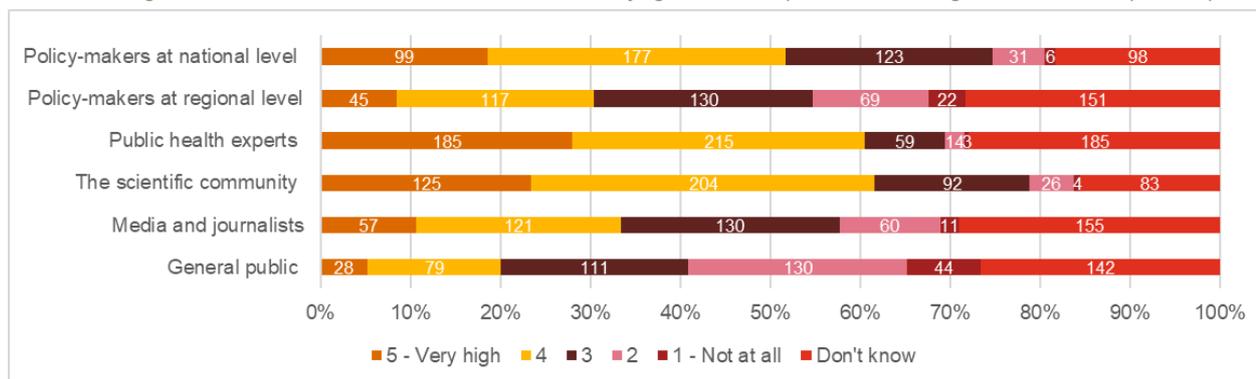
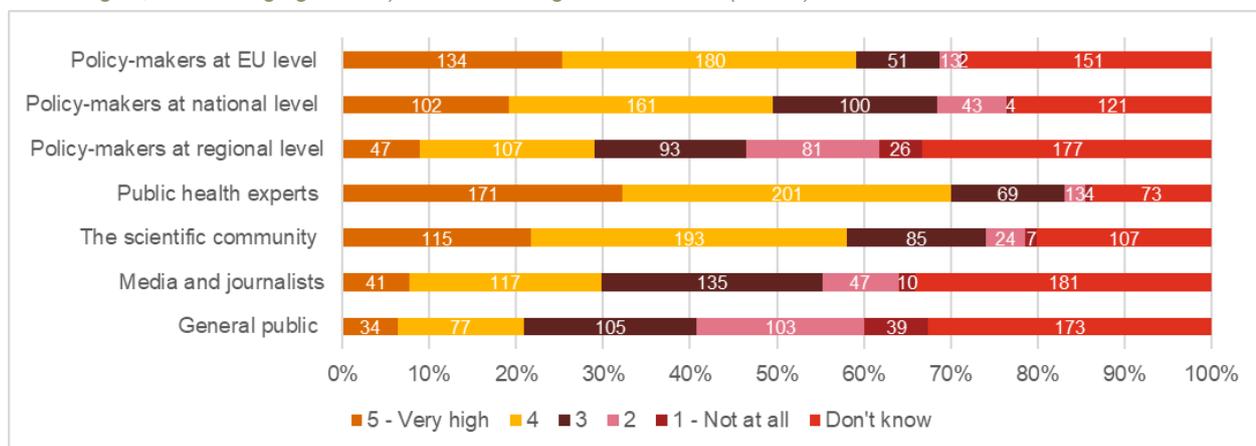


Figure 5 Given its expertise and know how, how well is the ECDC adapted to respond to the emerging needs (e.g. emerging technologies, new emerging threats) of the following stakeholders? (n=531)



As already analysed under SEQ 1.2, **EU-level policymakers** use ECDC outputs as the evidence-base in policy documents. A review of policy documents by the European Commission, Council and Parliament in current policy priority areas such as AMR, vaccination and vaccine hesitancy (see Appendix C) shows that all identified policy documents contained multiple references to ECDC outputs. This is also supported by the results of the analysis on the effectiveness of ECDC’s vaccination strategies under SEQ 4.5, which shows increasing use of its outputs related to vaccination, such as its vaccine scheduler. The results of the targeted survey further show that close to 60% of the consulted stakeholders also have a positive view on the relevance of ECDC’s outputs for emerging needs related to emerging technologies or emerging threats (see Figure 5).

The relevance of ECDC’s outputs for **policy-makers at the national level** was also found to be high. As discussed under SEQ 4.4, there is evidence that ECDC’s evidence based guidance outputs are used by Member State actors to devise effective national strategies and tackle epidemics. Survey respondents also rated the relevance of ECDC’s outputs positively, with 52% rating it as “high” or “very high”. A quarter of these offered concrete examples of ECDC outputs that were relevant for them. The most frequently mentioned ECDC outputs were the *Rapid Risk Assessments*, the surveillance outputs and the strategic orientation for MS. Almost all stakeholders in this category who were interviewed for the evaluation were able to name at least one example of an output produced by ECDC that has been relevant for their needs, all of which inform decision-making and the adoption and implementation of measures at the national level. An analysis of the main ways through which concrete ECDC outputs are used at national level is available under SEQ 9.2.

In relation to this, ECDC’s outputs were viewed to be highly relevant for **public health experts and the scientific community**. More than 60% of the surveyed stakeholders believe that the outputs generated by ECDC were “highly” or “very” relevant for the needs of these groups. For the Scientific Community, about 20% of the surveyed stakeholders who perceive ECDC’s outputs to be relevant were able to give at least one example of an output that addressed their current needs. The relevance of ECDC’s work for scientific research is also evidenced by the increasing impact factor of the Centre’s scientific advice (see Figure 77) and of Eurosurveillance (see Figure 81).

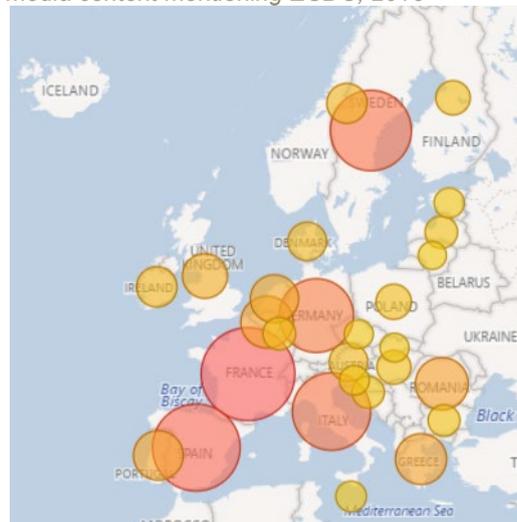
Approximately 25% of stakeholders who considered ECDC's outputs were relevant for the current needs of Public Health Experts, were able to provide examples of relevant activities performed by ECDC. This is supported by the findings under the analysis of the effectiveness of ECDC outputs and activities. For instance, as discussed in detail under SEQ 4.2, a report commissioned by the Netherlands Early Warning Committee (NEWC)<sup>47</sup>, concluded that ECDC communicable disease and round table reports constitute one of the most useful international information sources for identifying threats from abroad within the EU. In addition, it emerged from interview and survey findings that a high number of public health experts working in national Public Health Institutes use the outputs of ECDC as input for their recommendations to national decision-making processes. However, according to the consultation feedback gathered, the degree of relevance for national policy makers varies between larger Member States and/or Member States with well-resourced public health activities and smaller ones / Member States with weaker public health capacity. Public health experts from the former tend to use ECDC outputs mainly as a supplement to the results of their own work, whereas smaller Member States tend to rely on ECDC outputs to a greater extent as the main source of information for their input in responding to requests for information from policy-makers. These findings were supported by participants of the focus groups carried out.

As can be seen from Figure 4 ECDC's outputs were considered to be somewhat less relevant for the **needs of regional policy makers** (30% of the surveyed stakeholders gave a positive assessment). Less than 5% of the surveyed regional policy makers were able to name ECDC outputs that have proven to be relevant for their needs. Interview data attributes this to the mechanism by which Member States communicate on ECDC outputs between the national and regional policy makers, language barriers and ECDC's outputs not being specific enough for regional needs. These findings are similar to the previous external evaluation of the Centre, which made corresponding recommendations to further enhance translations of ECDC materials.<sup>48</sup> Nevertheless, feedback from consultation activities suggests that this stakeholder group is not considered a direct target audience of ECDC outputs amongst consulted stakeholders. Rather, they consider that regional stakeholders should benefit from ECDC outputs via dissemination from the national level. This is in line with ECDC's Communication Strategy 2016-2020 which places the focus on national level policymakers.<sup>49</sup>

The groups of stakeholders for which ECDC's outputs proved to be of least relevance were the **media and the general public**. Only 30% of the surveyed respondents believe that ECDC's outputs are relevant to address the current needs of the media, and just 20% of the stakeholders believe that the general public's current needs are addressed by ECDC's outputs.

As can be seen from Figure 6, the volume of social and traditional media content mentioning ECDC differs substantially across Member States. The available media analysis data does not allow for more concrete conclusions on the underlying factors, but the feedback from the stakeholders consulted for this evaluation suggests national media is less aware of ECDC and may preferentially obtain information from national public health institutes or the WHO. The main reasons identified for this in the feedback collected through stakeholder consultation are a (perceived) low level of communication between ECDC and the media, in line with the findings under SEQ 4.8.

Figure 6 Localisation of Social and Traditional media content mentioning ECDC, 2016



As for the general public, the obstacles identified by the consulted stakeholders refer to the fact that ECDC's outputs are predominantly in English, which makes it difficult for the public in non-English speaking countries to access and make use of them. While the website is viewed as being informative, a majority of consulted stakeholders felt it was not targeted towards the public enough. The suggestion made here is to better package the messages from ECDC to the general public and to translate them using simplified jargon-free vocabulary and into more languages. Nevertheless, a number of other consulted stakeholders stressed that it should be kept in mind that the general public is not a key stakeholder or target audience of ECDC, and argue that the communication to the public should go through national communication channels. This is in line with the decision to deprioritise such activities due to the resource cuts that ECDC had to go through.<sup>50</sup>

**In summary, the overall relevance of ECDC for different types of stakeholders in all Member States is considered to be high although the needs differ, with public health experts and policy makers in smaller and less-resourced Member States relying more heavily on the work of ECDC, whereas larger, higher-capacity**

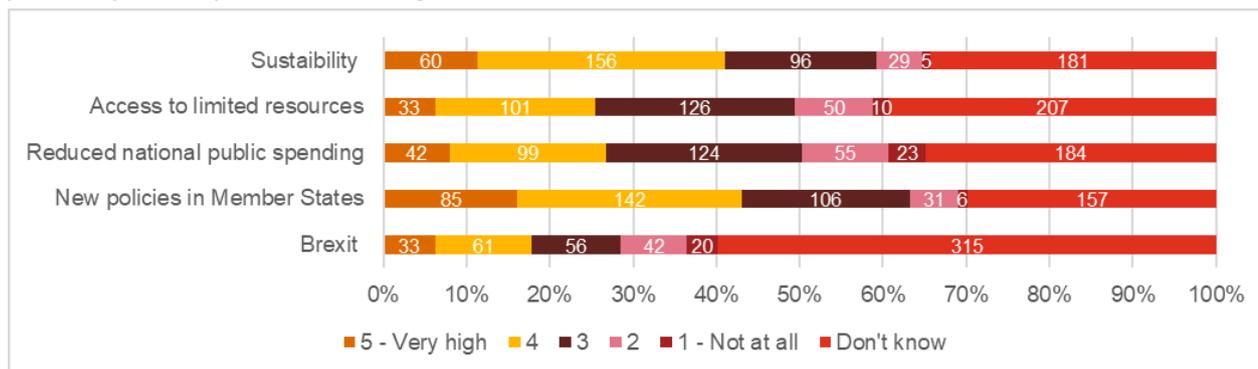
countries used ECDC more as a supplement to their own work. ECDC’s outputs were considered to be somewhat less relevant for the needs of regional policy makers, in line with the fact that they are not a direct target audience of ECDC outputs and benefit from ECDC outputs via dissemination from the national level. The relevance of ECDC for the media and the general public is deemed to be lower. Concerning the media, feedback from consultation activities suggests national media is less aware of ECDC and may preferentially obtain information from national public health institutes or the WHO. This was attributed to low levels of communication between ECDC and the media. While the general public is at present not considered to be a primary target group for the Centre and it was considered that communication to the public should go through national communication channels, it was suggested that ECDC could strengthen the relevance of its outputs for this stakeholder group by better packaging their outputs and translating them using simplified, jargon-free vocabulary and into more languages.

**SEQ 1.4 To what extent is ECDC equipped to adapt to changes in EU policy and in the political and socio-economic situation in the EU?**

The political and socio-economic situation in the EU is dynamic and the relevance of ECDC is determined by its ability to adapt to changes. The analysis of this is based on feedback from the stakeholder consultation activities as well as analysis of the resource capacity of ECDC to take on new tasks.

As can be seen from Figure 7, the consulted stakeholders considered that the extent to which ECDC’s activities remain appropriate and the extent to which the Centre is equipped to adapt to the considered changes in the EU context varies. In the context of Brexit especially, it becomes clear that current uncertainty as to the way it will be finalised is reflected in stakeholders’ assessment of ECDC’s ability to adapt (see almost 60% of “Don’t know” answers).

Figure 7 To what extent does the current level of ECDC activities remain appropriate given changes in the EU context, particularly with respect to the following areas



The consulted stakeholders were of the view that ECDC remains relevant and well equipped to adapt to changes in the EU context with respect to the need to increase the **sustainability** of work done in the area of public health. Common reporting and the possibility of economies of scale via rich collaboration between health authorities in areas such as AMR and vaccinations, as facilitated by ECDC, are amongst the examples provided. Furthermore, stakeholders argue that ECDC’s actions last many years and it is equipped with high calibre experienced staff, expertise, a wealth of data and publications which are conducive to sustainable outputs and policy making in the EU context. An example for this are the various country visits<sup>51</sup> which are considered to allow for the provision of MS-specific guidelines, which are expected to have a long lasting impact as they are not overly generalized and short-term oriented. Several stakeholders also commented on the Centre’s relevance for sustainable development in the context of the UN Sustainable Development Goals, that set out a number of important targets for public health outcomes that ECDC can be considered to contribute to through its international activities and its activities in the area of AMR, immunisation and preparedness.<sup>52</sup>

Regarding the changes in EU context in terms of **access to limited resources**, the consulted stakeholders considered that ECDC can adapt relatively well. Specific examples given for this include ECDC’s publications and recommendations that are able to prepare national authorities of Member States to focus on current and emerging communicable diseases as public health priorities and advocate for not decreasing national resources. Furthermore, ECDC facilitates access to expertise and new technologies which some Member States might not be able to have and therefore provide Member States the opportunity to access these despite limited resources. An example for this is ECDC’s work on whole genome sequencing. In addition, a number of stakeholders highlighted that ECDC’s provides best practice guidance on cost effective interventions that help to ensure effective work in limited resource scenarios.

The consulted stakeholders reported that ECDC can do more to adapt to **reduced national public spending** in Member States (see the adjacent figure for an analysis of the change in public health spending in the EU over the period under evaluation). In 2013, ECDC established an Economic Austerity Task Force in order to map the existing programmes that could assist Member States in the event of budget cuts.<sup>53</sup> This initiative did not result in concrete actions and looking at the future, the consulted stakeholders expressed concern about the extent to which these kind of developments are taken into account when considering the implementation of new policies and technologies that require additional resources. More concrete delineation between mandatory and voluntary tasks could help address this issue.

Secondly, evidence shows that ECDC is able to adapt to changes in the context of **new policies in Member States**. As discussed under SEQ 1.2, the Centre's activities have been relevant for needs related to policy developments in the areas of AMR, vaccination and emerging diseases like Zika and Ebola. Another example of adaptation to new policies given by several stakeholders was the launch of a new version of the Early Warning and Response System (EWRS) by ECDC and the European Commission which through its links with other platforms coordinated by the European Commission such as RASFF (food safety) and ADNS (animal health) will help move one step further towards implementing the One Health approach (addressed in detail under EQ 18).

In addition, as discussed under SEQ 4.1, the Centre successfully adapted to **new policies at the EU level**. Specifically, the Centre successfully integrated additional tasks assigned to it as a result of the implementation of Decision 1082/2013<sup>54</sup>, despite no corresponding increase to the EU subsidy to the Centre.

Almost 60% of the surveyed participants were not able to give an answer to the question as to whether ECDC is equipped well enough to adapt to **Brexit**. This can be explained by the fact that at the time of this questionnaire the concrete terms under which the UK will exit the European Union were not public or clear yet. Stakeholders who answered this question considered that Brexit will certainly cause an imbalance in the short term to the Centres' activities as a large part of the expertise is currently provided by the UK but the gaps created could allow more participation by other EU countries. Other stakeholders pointed to pre-existing partnerships such as US-CDC-MoU, Norway, etc. show that ECDC has the infrastructure to set up similar collaborative models, once the political question of Brexit is resolved by the EU and the UK.

**Resource availability** is a key consideration when assessing the extent to which the Centre is equipped to address changes in the EU context. Concerning its budget composition, like most EU Agencies,<sup>55</sup> ECDC is almost exclusively financed by the Community with no funding derived from fees. Indeed, ECDC's 2014 Financial Regulation states that "Revenue consisting of fees and charges shall only be assigned in exceptional and duly justified cases provided for in the constituent act."<sup>56</sup> However, the legislation allows ECDC to receive additional funding from the Commission in duly justified cases.

The financial contributions of the Community averaged 55.5 EUR million a year over the evaluation period (see Figure 9). The Centre has a small revenue stream from the implementation of grants and other miscellaneous sources. Revenue from the implementation of grants was an average of 255,597 EUR over the period of the evaluation. The fluctuations in amounts coming from this source, as seen Figure 9, are related to the closing of certain agreements such as the MediPIET service agreement and the third Instrument of Pre-accession Assistance (IPA) grant agreement in 2015. The 'other revenue' category shown in Figure 9 includes the revenue the Centre received from the recovery of taxes, recovery of costs from staffing in current and previous years, as well as year-by-year specificities such as the recovery of funds from an ex-post audit on a grant given by ECDC in previous years.

Figure 8 Change in % in total spending on public health services (2013-2016) (Eurostat)

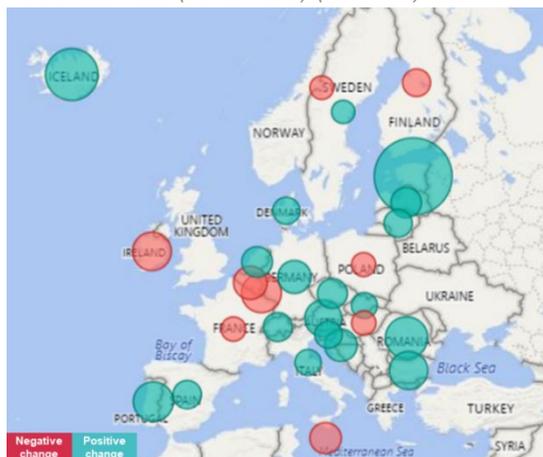
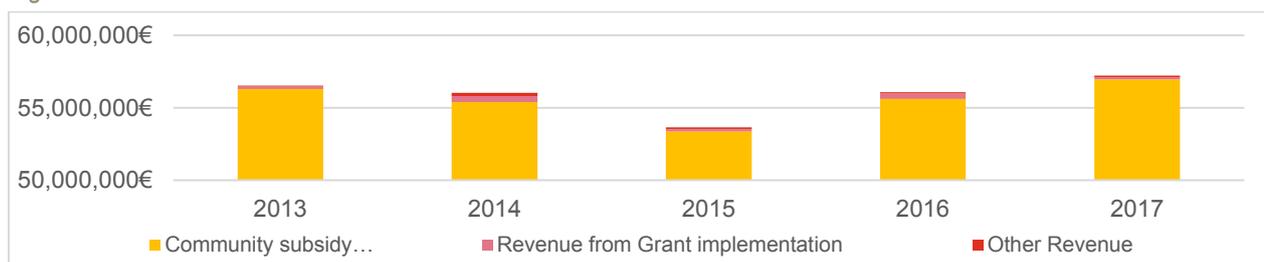


Figure 9 ECDC sources of revenue 2013 - 2017



While the Community contributions represent a stable source of income, they can also be considered a constraint as the Centre will need to rely on additional funding from the EU budget, should it want to grow its activities in a given area. This is in contrast to some EU agencies like ECHA and EMA,<sup>57</sup> which rely primarily on fee income and can thus foresee growth in some area based on their projections for increased fee income.

At the same time, it should be noted that ECDC has had to return pre-financing to the EC each year (see Table 1), with an amount corresponding to 10% of its operating revenue returned in 2015. As a comparison, another EU Agency in a similar family to ECDC<sup>58</sup> had an average of -1%. According to the Annual Reports of the Agency, the factors leading to this were largely external,<sup>59</sup> but as discussed under EQ 21, the planning and monitoring activities of the Centre also indicate that there is room for improvement in the processes for de-commitment and reallocation of resources over the course of the financial year.

*Table 1 ECDC pre-financing to be returned to the EC 2013-2017 (EUR)<sup>60</sup>*

	2013	2014	2015	2016	2017
Operating revenue	56,525,908	56,335,515	53,654,478	56,078,019	7,243,644
Pre-financing to be returned to the EC	2,012,975	3,083,926	5,079,604	2,638,823	1,079,297
Percentage	4%	5%	9%	5%	2%

An estimate of the resources available at ECDC or additional tasks can be made on the basis of the share of resources dedicated to “non-essential” activities, but this indicator is not used by ECDC. The closest comparison can be found in the Single Programming Document 2018-2020, in which certain outputs are marked as ‘can be deprioritised in case of emergency’, but there is no corresponding estimate of the resources that could be reallocated. In general, as discussed under EQ 21, the Centre routinely reallocates resources in order to respond to emerging needs, but the overall room for this is limited and there is evidence that such re-allocations have resulted in delays in the implementation of planned activities.

**In summary, there was a generally positive consensus amongst stakeholders concerning the Centre’s capacity to adapt to changes in EU policy and in the EU political and socio-economic situation. The area perceived as weakest concerning the Centre’s capacity to adapt related to reduced national public spending. An impact from Brexit is anticipated, but there was a high degree of uncertainty surrounding the topic at the point of the evaluation. The question of the availability of public health expertise was highlighted as an associated issue to be considered, as a large part of the expertise is currently provided by the UK. However, it was pointed out by consulted stakeholders that the gaps created could allow more participation by other EU countries. In addition, that pre-existing partnerships such as US-CDC-MoU, Norway etc. show that ECDC has the infrastructure to set up similar collaborative models. Finally, an analysis of the availability of resources at the Centre indicates that there is limited room for addition of major new tasks within the constraints of the current budget.**

**EQ 2: How well adapted is the ECDC to respond to new needs of existing and new stakeholders, given current ECDC expertise and know-how, and its potential to improve public health in the EU?**

One of the ways in which ECDC aims to ensure the relevance of its work for its stakeholders is by consulting its Advisory Forum on the topics it should prioritise.<sup>61</sup> The rules of procedure of the Forum<sup>62</sup> make it clear that its members take part in meetings and working groups in which they have means of suggesting agenda items or provide their input on (new) needs related to the work of the Centre. In addition, input from the Forum is central to the main prioritisation mechanism at ECDC - IRIS. IRIS is a system for prioritising scientific advice topics (identified by the Advisory Forum) to be included in ECDC work plans. The tool was introduced in 2013 and around 70% of the actions prioritised via the IRIS tool in 2015 were included in the 2017 work plan.<sup>63</sup> As discussed under SEQ 4.13, the evaluation gave an overall positive assessment of the effectiveness of the prioritisation mechanisms in the Centre although room for improvement remains concerning its deprioritisation mechanisms.

The analysis of the extent to which ECDC is able to address new needs of its stakeholders is to a large extent informed by the needs identified by stakeholders consulted during the interviews and survey activities (specifically the evaluation questions presented in Figure 2 and Figure 4). In addition, the evaluation looked for evidence of questions submitted to ECDC or the European Parliament which can be considered to refer to new needs or come from new stakeholders, but no clear examples were identified. Some of the “new” needs identified have already been discussed (see SEQ 1.4), but in summary they are considered to relate to needs for support with the adoption of new technologies, such as whole genome sequencing, and research and support for dealing with emerging threats such as the Zika virus. Both of these areas have been addressed in ECDC’s work, although they were not part of the priorities set in the 2014-2020 Multiannual programme of the Centre, thus demonstrating the ability of the Centre to address new needs. ECDC’s connections and collaboration with other international institution such as WHO and the

CDC were particularly highlighted by stakeholders as one of the contributing factors to its relevance for addressing new emerging needs. A new need identified by both existing and potential new stakeholders was migration. As discussed under SEQ 1.2, ECDC has been able to successfully create tools and training to enable better handling of the health threats stemming from this recent emerging situation.

The feedback collected on the potential for extending the mandate of the Centre (see EQ 3) showed that a large number of current stakeholders consider that it would be beneficial for ECDC to expand its work to cover non-communicable diseases, and especially those conditions that are closely linked to infections (e.g. HIV, HPV). In the area of cross-border threats to health, some stakeholders considered that ECDC's role should be extended towards risk management in addition to risk assessment. The role of ECDC is currently defined by the precautionary principle which is used through the EU in scientific fields related to e.g. food safety, chemicals and public health<sup>64</sup>. There is a distinct division between Member States that are supportive of the idea of changing ECDC's role and those which are not. Larger Member States tend to believe that such a role is not necessary, since their own national public health institutes already provide suitable recommendations and guidance. Conversely, smaller Member States tend to believe that such an expansion could be beneficial for improving response to public health threats across Europe. In any case, a revision of the role of ECDC in that respect would require a change of the overall precautionary principle-based framework at EU level.

As regards the needs of new stakeholders, although there is no specific group of stakeholders that can be identified as "new", some examples can be considered. Croatia's accession to the EU in 2017 changed the stakeholder group for the country from "accession country" to "EU Member State". ECDC's work programme for 2013 included a number of activities to facilitate this transition, but there are no indications to suggest that the Agency received additional budget for that.<sup>65</sup>

There are also new stakeholders for the Centre in the area of its international activities. For example, the European Medical Corps, which was set up by DG Humanitarian Aid and Civil Protection of the European Commission (DG ECHO) in 2016, can be considered as a new stakeholder entity. ECDC has included plans for cooperation with the Corps in its work programme for 2017.<sup>66</sup> DG ECHO can also be considered a new and potentially important stakeholder for the Centre looking forward, and has already expressed its interest in developing more active cooperation with ECDC in responding to public health emergencies related to communicable diseases.<sup>67</sup> Another new stakeholder is the newly formed Africa Centre for Disease Control, with which ECDC is cooperating under the framework of its existing International Relations Policy.<sup>68</sup>

Finally, the involvement of ECDC in the Innovative Medicines Initiative<sup>69</sup> (IMI2) and the IMI ADVANCE project<sup>70</sup> can be considered as an example of a new type of initiative involving private sector actors, which also instigated the development of criteria for the Centre's participation in projects with private partners.<sup>71</sup> This therefore also constitutes an example during the reference period in which the Centre successfully adapted its activities to meet a new need.

**In summary, the Centre has demonstrated its ability to adapt its activities to new needs such as new technologies and new threats to health from communicable diseases. There is also evidence of the Centre's efforts to work with new stakeholders in the area of communicable diseases, such as the newly set-up European Medical Corps and the Africa Centre for Disease Control.**

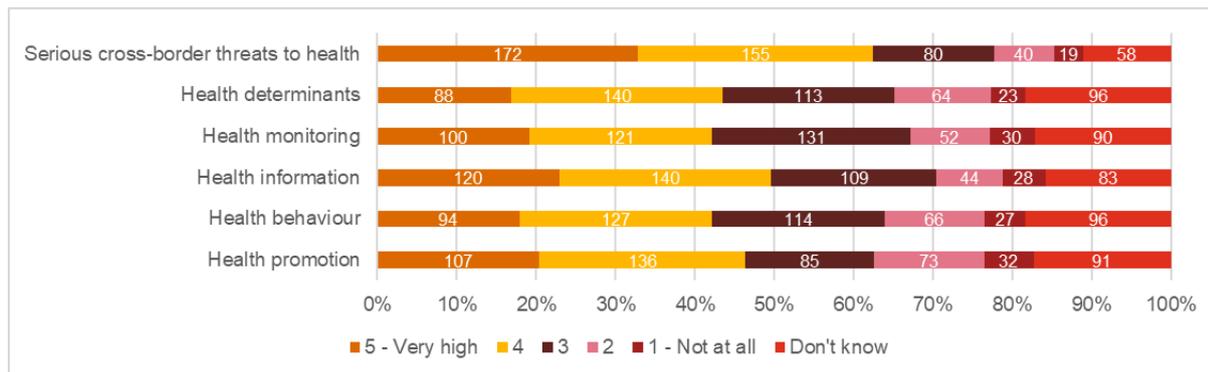
**EQ 3: Is there a possible need to extend the scope of the Centre's mission to other relevant Community-level activities in the field of public health, as per an assessment according to Article 31 in the Founding Regulation, also taking into account the all-hazards approach in Article 2 of Decision No 1082/2013/EU on serious cross-border threats to health, health determinants, health monitoring, health information, health behaviour and health promotion outlined, and to meet new needs as identified in question 2? To what extent would the tasks, working practices and infrastructure of the Centre facilitate an extension of the mandate?**

*SEQ 3.1 Is there a need to extend the scope of the Centre's mission in these areas?*

Article 31 in the ECDC Founding Regulation requires that the external evaluation consider the need for extending the mandate of the Centre. As can be seen from Figure 10, for most areas under consideration the opinions gathered through the targeted survey with stakeholders of the Centre are divided. The potential of extending the Centre's mandate in the area of cross-border threats to health other than from communicable diseases was assessed most positively out of all six areas considered. For the rest, less than half of the survey respondents expressed clear support for the extension of the mandate. Similar results were obtained from the dedicated survey on this issue with EU-level stakeholders in each of the areas considered, and from the public consultation carried out for the evaluation. The

following analysis considers each area separately based on the collected information from different primary and secondary data sources.

Figure 10 Do you think there is a need to extend the scope of the Centre’s mission in the areas of... (n=524)



### Cross-border threats to health from sources other than communicable diseases

Decision 1082/2013/EU covers serious **cross-border threats to health** of biological origin as well as chemical, environmental and unknown origin, which are currently addressed through the combined efforts of the EU Member States, the European Commission, ECDC and other agencies like EFSA, ECHA and EEA, all of which are involved in the Health Security Committee (HSC). The Decision de facto already extends the scope of ECDC’s mandate beyond that of communicable diseases, as the Centre was tasked with the implementation of the Early Warning and Response System (EWRS) which transmits notifications of alerts and for all areas covered by the Decision (see SEQ 4.2). The Impact Assessment which informed the Commission’s proposal for the Decision considered different options for addressing the needs for EU-level intervention to address cross-border threats to health, but did not consider in detail the role that should be played by ECDC specifically.<sup>72</sup> The Decision specifies the role to be played by ECDC and EFSA for risk assessment in their areas of expertise, but leaves it to the European Commission to handle this task for the rest of the areas covered through Scientific Committees. The Scientific Committee on Health, Environmental and Emerging Risks (SCHEER), which was set up in 2016,<sup>73</sup> is mandated to provide public health risk assessment in case of serious cross-border chemical threats. At the time of adoption of the Decision, there were some concerns about whether the mechanism for handling risk assessments through such Committees is sufficiently strong.<sup>74</sup> Since the adoption of Decision 1082/2013, all situations considered by the HSC have been due to threats falling under the mandate of ECDC and EFSA, whereas the effectiveness of the mechanism for handling other types of threats have been tested through simulations.<sup>75</sup> As such, there is no evidence of gaps or ineffectiveness of the existing mechanisms for addressing cross-border threats to health in areas other than communicable diseases. Nevertheless, a number of stakeholders in the area of preparedness considered that the diverging approach to dealing with the different sources of risk runs contrary to the “all hazards” principle of the Decision.

The need for continued EU-level activities in the area of cross-border threats to health of biological, chemical or environmental origin is also underscored by the fact that the European Commission has funded several successive Joint Actions on these topics, in particular in relation to bioterrorism-related threats and chemical threats.<sup>76</sup>

As can be seen from Figure 10, 62% of the surveyed stakeholders believe that an extension of ECDC’s mandate towards serious cross-border threats to health is needed. Close to 70% of country-level respondents who answered the question considered that the need is very high or high. Further analysis of the responses considered the extent to which they are correlated with criteria such as geographical location, year of accession to the EU and organisation of the public health system.<sup>77</sup> There are no clear trends in terms of the first two criteria, but 7 out of the 9 EU countries with a decentralised organisation of the public health system had lower than average assessment of this question.

Explanations of the needs gathered through the different data collection activities point to two different ways in which ECDC’s mandate can be extended. Firstly, many stakeholders considered that ECDC’s mandate should cover cross-border threats in areas other than communicable diseases – namely of environmental and chemical origin. The arguments in favour are mainly focused on the benefit from an all-hazards approach centred in one organisation and on the consideration that there are interactions between threats from different origins and a corresponding need to have an integrated approach to dealing with them. For example, the response to communicable health threats overlaps with environmental issues such as the residue of antibiotics in food, sewage water and waste or through the interaction of heat waves and infectious diseases. At the same time, the approach, knowledge and skills needed for the surveillance of the impacts on population health from such threats is similar to that used for infectious diseases and thus is considered to fit well with ECDC current mandate on this. The need and relevance for ECDC to be involved

in such areas was illustrated already prior to the adoption of Decision 1082/2013 - in 2010, ECDC was asked by the European Commission to conduct activities outside its mandate and produce threat assessments of threats from environmental origin.<sup>78</sup> Since the adoption of the Decision, there have not been any risks in these areas but given ECDC's current health protection mandate and expertise in handling outbreak situations, the stakeholders in favour considered that the Centre is well equipped to extend its scope in this direction. The benefits for Member States would be that the consolidation of these areas under ECDC's mandate would improve the focus, preparedness, monitoring and technical coordination for managing such events.

Secondly, although the question of the need for revisions of the precautionary principle was not explicitly asked in the data collection activities, a small number of consulted stakeholders considered that there was a need for ECDC to provide more support to the risk management activities of Member States and the Commission. As already discussed under EQ 2, in line with established precautionary principle, ECDC has a mandate only in risk assessment whereas the risk management mandate is carried out by the Commission and Member States. However, different types of consulted respondents considered that the response from Member States in case of cross-border outbreaks at present is not sufficient and could be improved through the involvement of ECDC given its existing capacities for assessment and preparedness and the support it can provide to outbreak response activities. As a result, multiple respondents from public health institutes in a diverse set of Member States called for ECDC to provide more support to Member States in their risk management activities and operational response to cross-border threats through EWRS and HSC with the goal of strengthening the overall response at EU level.

Among the survey respondents who oppose an extension of the mandate in this area, several pointed out that so far there has been limited need to deal with cross-border chemical threats to health at the EU level. They also highlighted the fact that the scientific expertise on chemicals in the scientific committees has not been activated since Decision 1082/2013 came into force in 2013. The potential for overlap with other EU bodies and WHO was also brought up by multiple stakeholders who prefer to keep ECDC's mandate to threats from communicable diseases and unknown origin only.

### Health information & monitoring<sup>79</sup>

Health information is defined as "all data, evidence and knowledge that determines health and health service performance at individual or population level to facilitate research, promotion, prevention, care and support policy-making."<sup>80</sup> At present, the legal framework for health information at EU level is set by a Framework Regulation (1338/2008) on public health and health and safety at work<sup>81</sup> and derived Implementing Regulations,<sup>82</sup> as well as Regulation 1260/2013 on European demographic statistics.<sup>83</sup> Furthermore, the collection of some additional information like that on healthcare non-expenditure statistics is coordinated by Eurostat under the European Statistical System (ESS) despite the absence of legal base.<sup>84</sup>

The need for the development of an EU-level health information system and health monitoring system has long been acknowledged by the European Parliament,<sup>85</sup> Council<sup>86</sup> and Commission.<sup>87</sup> Recent discussions of the European Commission Expert Group on Health Information have acknowledged the need for better governance of health information generation, the need to better align health information with policy priorities, and to reduce duplications and unnecessary data collection burden on Member States.<sup>88</sup> The 3<sup>rd</sup> Health Programme of the European Commission defined as a thematic priority the fostering of "[...] a health information and knowledge system to contribute to evidence-based decision-making, including the use of existing instruments and, where appropriate, further development of standardised health information and tools for monitoring health, collection and analysis of health data, and the wide dissemination of the results of the Programme."<sup>89</sup> Despite efforts in the area such as successive projects financed by the Commission to support development of such systems (see e.g. the European Community Health Indicator Monitoring (ECHIM) project,<sup>90</sup> BRIDGE Health project, InfAct Joint Action), as of the end of the period under evaluation, there was still noted absence of a comprehensive and effective EU-wide public health monitoring system or health information systems.<sup>91</sup>

The most recent initiative on this subject – the BRIDGE Health project, which was finalised in 2017, aimed at the production of a blue print for a European health information (EU-HI) and data generation network. The project included an analysis of the situation as of 2016 and investigated the possibilities to create an organisational entity that could take up the tasks that come with the need for strengthening the EU health information system.<sup>92</sup> The project considered different options, including the extension of the tasks of ECDC or Eurostat, but ultimately recommended that the task is handled through the creation of a European Research Infrastructure Consortium (ERIC), due to its feasibility in the relatively short term. The analysis concluded that the structure could then evolve to one of the other more ideal options such as a new EU agency or extending the remit of Eurostat or ECDC.<sup>93</sup> InFACT is a 36 months European Joint Action dedicated to health information in Europe, which started in 2018.

The stakeholders consulted for this evaluation were of the view that health information is the second most relevant area in which the scope of ECDC's mandate should be extended. 50% of the survey participants rated the need to extend ECDC's mandate to cover health information as 'high' or 'very high'. There are no clear trends in terms of the geographical location or year of accession to the EU of the country of residence of the respondents, but respondents for 7 out of the 9 EU countries with a decentralised organisation of the public health system had lower than average assessment of this question. The work done under the EU-funded projects mentioned was assessed positively, but stakeholders familiar with the projects considered that the sustainability of results would be higher if they were part of an established organisation like ECDC. This was also reflected in the findings of the BRIDGE Health project, which also highlighted that scientific focus of alternative options such as an ERIC is a drawback and that the Centre lacks a mandate to steer health information in the EU and ensure the participation of all Member States.<sup>94</sup> Stakeholders expressed that it is very important for ECDC when considering the extension of its mandate to build on the work done under these projects as well as by Eurostat. Those against expansion of the mandate to health information preferred to rely on the existing systems, joint actions and projects, such as WHO/Euro European Health Information Initiative – EHII and the EU Joint Action on Health Information – InfAct.

The views on whether ECDC's mandate should be extended to cover health monitoring are divided. Approximately 40% of the surveyed stakeholders were of the view that an extension of ECDC's mandate is needed. There are no clear trends in terms of the geographical location or year of accession to the EU of the country of residence of the respondents, but respondents for 7 out of the 9 EU countries with a decentralised organisation of the public health system had lower than average assessment of this question. The highlighted benefits of extending the mandate in this area focus on the consolidation and harmonisation of different health monitoring approaches which would create a better link between EU policy priorities and a better view of different and shared policy needs among the Member States. Consulted stakeholders in favour of extending the Centre's mandate to this area believe that bringing these initiatives under the umbrella and supervision of ECDC health monitoring activities would be beneficial and provide a more stable and permanent status to work conducted within different European projects. They suggest that this is done with the help of EU bodies, such as, but not exclusive to, Eurostat, EMCDDA, ECHA, EU-OSHA etc.

### Health determinants

WHO defines health determinants as the factors that affect the health of individuals and communities and distinguishes between determinants related to the social and economic environment, the physical environment, and the person's individual characteristics and behaviours. EU level activities in this area are currently the domain of the European Commission<sup>95</sup> and data on health determinants is collected by Eurostat. Work on health information referred to above, such as the Joint Action InfAct also includes data on health determinants,<sup>96</sup> but there are also dedicated projects on social determinants and health inequalities such as the recently concluded project HEPP – Maintaining a focus on health inequalities,<sup>97</sup> the Joint Action on Health Inequalities<sup>98</sup> funded under the 2<sup>nd</sup> Health Programme and its successor under the 3<sup>rd</sup> Health Programme - the Joint Action Health Equity Europe (JAHEE).<sup>99</sup>

ECDC already covers health determinants through some of its existing activities under Disease Programmes, in particular the surveillance of antimicrobial consumption through ESAC-Net. The EPHEBUS evaluation of ECAS-Net noted that the absence of a clear mandate for ECDC to monitor a health determinant rather than an infectious disease is considered a barrier for the ability of ECDC to prioritise this highly relevant work.<sup>100</sup>

The survey results on whether there is a need to extend the mandate of ECDC in this area are inconclusive - about 40% of the consulted stakeholders were in favour. Collected arguments in support of extending the mandate pointed to the close links between determinants and communicable disease incidence and the benefit of taking a holistic approach to both. It was pointed out that data on determinants is already collected in Eurostat, but what is missing and what ECDC can do with a stronger mandate on this is to facilitate the definition of priorities and guidelines on how health determinants data can be better collected, used and improved. Multiple stakeholders pointed out that the differences between Member States in various health related areas, such as health systems, populations and climate create a need for an EU-level organisation to address the topic and improve on the sustainability of one-off projects that have been financed by the EU so far. ECDC is further viewed as being a natural actor to provide this work, given their pre-existing networks and public health expertise. The surveyed stakeholders in favour of extending the mandate of ECDC to the field of health determinants considered it would further facilitate the understanding and formulation of control measures for communicable and non-communicable diseases. Close to 70% of country-level respondents who answered the question considered that the need is very high or high. Nevertheless, there seem to be no distinct geographical trends in the responses, nor trends related to the year of accession of the country of residence of the respondent or the level of centralisation of the public health system at national level.

## Health behaviour and promotion<sup>101</sup>

Activities in the area of health behaviour and promotion are currently carried out by the European Commission, through different initiatives. These include the Health Promotion and Disease Prevention Knowledge Gateway,<sup>102</sup> which aims at providing public health policy makers with reliable, independent and up-to date information on topics related to the promotion of health and well-being, in particular the prevention of non-communicable diseases like cardiovascular disease, diabetes and cancer. Early results of the work of the CHRODIS PLUS Joint Action<sup>103</sup> show that levels of development in relation to health promotion and prevention capacity vary across the 21 European countries taking part in the project. Prevention measures are not at the forefront of health services or current thinking throughout governments and there is a need to develop and sustain workforce capacities for health promotion and disease prevention. Furthermore, there is an urgent need for more structured and coordinated approaches to health promotion in order to develop and maintain effective and sustainable partnerships and to address noted gaps. The gaps and needs that have been identified most frequently in the country questionnaires are: a lack of adequate, consistent, and dedicated funding for health promotion and primary prevention; a lack of evaluation, monitoring, and research to assess the quality and disseminate health promotion implementation findings; and a lack of utilising approaches that incorporate the social determinants of health, health equity, and are attentive to the needs of vulnerable groups.<sup>104</sup>

Slightly more than 40% of the surveyed stakeholders felt that there is a need to extend the scope of the mandate of ECDC to the area of **health behaviour**, given its importance for a holistic and interdisciplinary assessment of infectious diseases. Health behaviour is already considered in the work done by ECDC on a number of diseases and a number of consulted stakeholders in favour of this pointed to opportunity to build on the experience and work done in the area of health promotion. There are no clear trends in terms of the geographical location or year of accession to the EU of the country of residence of the respondents, but respondents for 6 out of the 9 EU countries with a decentralised organisation of the public health system had lower than average assessment of this question.

Regarding **health promotion**, almost 50% of the surveyed stakeholders considered that ECDC's mandate should be extended in this area, building on similar existing successful activities of the Centre such as the European Antibiotic Awareness Day. There are no clear trends in terms of the geographical location or year of accession to the EU of the country of residence of the respondents, but respondents for 7 out of the 9 EU countries with a decentralised organisation of the public health system had lower than average assessment of this question. Respondents in favour of an extension of the mandate of ECDC in this area were of the view that ECDC's tasks and activities should be expanded to include best practices and benchmarking in terms of coordinating between health promotion and health behaviour. They suggested that adequate health promotion is a prerequisite to the prevention and management of public health priorities, and therefore should be strengthened within ECDC's mission. Opponents of an extension in this area were of the view that health promotion is best handled at the national level, in order to reflect the specificities of each country in terms of its culture and socio-economic situation.

## Cross-cutting analysis of the need for extending ECDC in the area of non-communicable diseases and cross-border threats to health from sources other than communicable diseases

Several cross-cutting trends can be highlighted from the analysis of needs for an extension of the mandate in the area of non-communicable diseases. Consulted stakeholders in favour considered that it would bring a lot of added value for addressing the high burden of non-communicable diseases for Europe and align the EU level approach to that of many public health institutes in the EU which already cover both communicable and non-communicable diseases. Specifically, it would address the need for comprehensive evidence-based coverage of population health and burden of disease in an aging European society and provide information on the differences between Member States and the related policy needs for interventions to improve health, quality of life and well-being of EU citizens. It would also address permanent needs for EU-level activities in these areas, demonstrated by successive Joint Actions funded by the Commission under its Health Programme. These views received support from consulted stakeholders from different Member States, both those who are current stakeholders of the centre and those reached through the survey targeted at stakeholders in the areas considered for extension of the mandate only.

Similar arguments can be drawn when discussing the extension of ECDC's mandate to cross-border threats from areas other than communicable diseases, where there is a need for the Centre to have an extended mandate in this area in order to strengthen the implementation of the all-hazards approach laid down in Decision 1082/2013 by providing for more permanent structures compared to the current set-up based on Scientific Committees and successive Joint Actions.

Among the stakeholders opposing an extension of ECDC's mandate, the main concerns relate to the potential for dilution and drop in quality of ECDC outputs as its tasks expand and it would require the Centre to cope with more (under the assumption that there is not a proportional increase in resources for activities in the new areas). This

reflects feedback gathered on this subject in the context of the 2<sup>nd</sup> external evaluation, which otherwise did not provide a conclusive assessment of whether there is a need for extension of the mandate.

Other feedback by stakeholders opposing an extension of ECDC's mandate relates to a risk of duplication and overlap with other existing bodies or activities. In particular, it would require a revision of the scope of work of the European Commission in these areas (the different projects, platforms and expert groups it manages). Furthermore, some stakeholders pointed out that the general limits of the involvement of EU agencies in policy making compared to the Commission could be considered a potential obstacle for the needs for steering policy development in this area at EU level. Finally, some stakeholders considered that the Centre is too fragile at this point, due to it being still relatively new, to handle an extension of its mandate, although no evidence was provided to support this.

Both stakeholders in favour and against pointed out that an extension of the mandate of ECDC especially in the area of non-communicable diseases would require substantial additional financial and human resources for the Centre. Several stakeholders familiar with the process of adoption of the EU Multiannual Financial Framework highlighted that the progression of the negotiation process will determine whether the legislative and financial changes required for the considered mandate change are feasible to address in the 2021-2027 MFF or in the subsequent one.

In order to summarise the benefits and downsides associated with extending ECDC's mandate in these non-communicable disease areas, a SWOT model was constructed and validated in a focus group with representatives of EU-level stakeholders in the areas concerned. As can be seen from the model presented in the following section (Figure 12), the opportunities presented by a scenario in which the Centre's mandate is extended are considerable, whereas the threats and weaknesses mainly relate to legal and financial constraints that can be resolved through legislative means.

As the scope of the evaluation is only on establishing whether there is a need to extend the scope of the Centre's mandate in these areas, the performed analysis is subject to limitations regarding the extent to which it can fully define overall needs in these areas or assess robustly consequences in terms of costs and benefits for the EU. Nevertheless, the analysis shows that an extension of the Centre's mandate to the areas of health determinants, monitoring, information, behaviour and promotion would mean a move towards non-communicable diseases which would require significant changes to the current approach for addressing these topics at EU level. The established diversity of stakeholder views and the lack of a consolidated evidence base for the current EU-level needs in the areas considered for extension of the mandate of ECDC demonstrate a need for a much broader debate and in-depth analysis of what such a move would mean for the Centre and how it would impact the existing activities in the respective areas at EU level. Although the support for an extension of the mandate in the area of cross border threats to health from environmental and chemical origin is relatively stronger, the implications of this option are also quite significant. Therefore, a dedicated Impact Assessment in line with the Better Regulation Guidelines of the European Commission would be needed to further the current needs (problems, drivers and consequences), objectives and alternative options for changes to the current level of activities and allocation of responsibilities in these areas in the EU. Impact Assessments are required for policy measures that require major changes to EU policy and have significant financial implications.

**ECDC is already providing support to EU activities on threats to health from areas other than communicable diseases and a majority of stakeholders considered that there is a need for the Centre to have an extended mandate in this area in order to strengthen the implementation of the all-hazards approach for cross-border threats to health. An extension of the Centre's mandate in the areas of health information, monitoring, determinants, behaviour and promotion would equate to an extension of the mandate into the area of non-communicable diseases. The evaluation found that ECDC is a potential suitable option for increasing/centralising such activities in an existing EU agency. However, the diversity of stakeholder views and the lack of a consolidated evidence base for the current EU-level needs in the areas considered for extension of the mandate of ECDC require that a dedicated Impact Assessment in line with the Better Regulation Guidelines of the European Commission is carried out to further elaborate the current needs, and to robustly define objectives and alternative options.**

### *SEQ 3.2 To what extent would the tasks, working practices and infrastructure of the Centre facilitate an extension of the mandate?*

In order to assess the extent to which the tasks, working practices and infrastructure of the Centre would facilitate an extension of the Centre, the evaluation considered both existing assessment and stakeholder feedback. The most relevant existing assessment comes from the BRIDGE Health project, which identified several strengths and weaknesses of extending ECDC's mandate for the provision of an EU health information system compared to alternative options like Joint Actions, ERICs or the set up a new EU agency (see Table 2).

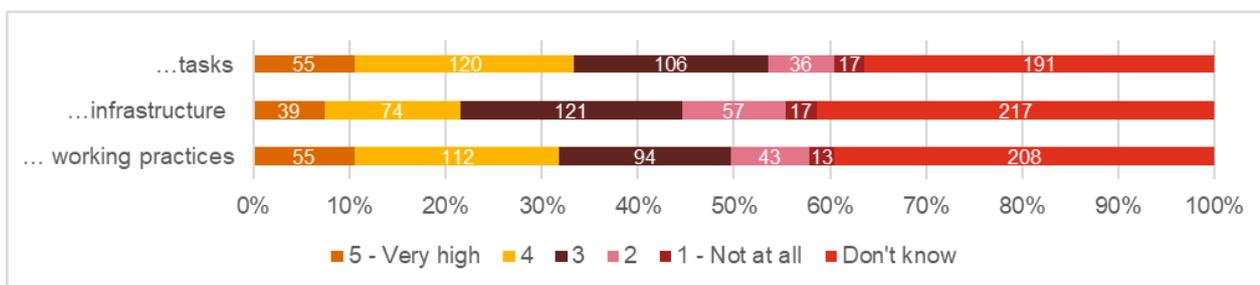
Table 2 Strengths and weaknesses of ECDC for taking on a mandate for the provision of an EU health information system

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>Existing infrastructure</li> <li>Existing experience and success in managing large networks and capacity building in countries</li> <li>Provides a link between existing work on infectious diseases and EU health information system</li> <li>Is linked to public health function</li> </ul>	<ul style="list-style-type: none"> <li>Focusses on infectious diseases</li> <li>Has no mandate for wider health information</li> <li>Visibility only connected to infectious diseases</li> <li>Has no experience on non-communicable diseases</li> </ul>

Source: Bridge Health: Concept Paper (2016)<sup>105</sup>

The identified strengths and weakness are also applicable for the rest of the areas in which an extension of the mandate is considered. They were also corroborated by the feedback from stakeholders consulted for the purpose of this evaluation. Although about 40% of the surveyed stakeholders were not able to provide an answer to the question (see Figure 11), about half of those who did gave a positive assessment of the extent to which ECDC's current tasks, infrastructure and working practice can facilitate an extension of ECDC's mandate to the areas considered according to existing tasks, working practices and infrastructure within ECDC that can facilitate an extension of the mandate. Nevertheless, some suggestions for improvement and possible activities hindering the extension were mentioned. However, as can be seen in Figure 24, more than one third of the surveyed participants responded "don't know". This is due to the fact that this question requires distinct knowledge of ECDC's internal operations.

Figure 11 To what extent do you believe an extension of the Centre's mandate would be facilitated by ECDC's current... (n=525)



The current **tasks** of ECDC can facilitate an extension of its mandate. ECDC's surveillance activities have repeatedly been identified as a task that can facilitate and be extended to other areas. Furthermore, some methodologies, such as the Rapid Risk Assessment, can be expanded to areas other than infectious diseases and the Centre has already provided several assessments for threats of environmental and chemical origin. Most consulted stakeholders also noted that some of ECDC's activities already touch on aspects that lie outside of its current mandate – for example, the EWRS tool, which the Centre operates on behalf of the European Commission, covers areas other than communicable diseases.

Regarding ECDC's **infrastructure**, its experience in integrating<sup>106</sup> and mechanisms for coordinating networks for surveillance of communicable diseases across Europe and will also facilitate the inclusion of activities in other areas in its mandate. The presence of international liaison officers with third countries (see EQ17) was also mentioned as being conducive to an extension of the mandate. In addition, it is reiterated that ECDC has good communication infrastructure with Member States that is scalable for the considered areas of mandate extension (e.g. TESSy, EPIS). However, the stakeholders consulted on this issue noted that there would be a need for technological improvements within the Centre, with a focus on establishing better data platforms and visualisation tools.

In terms of **working practices**, the general views of the consulted stakeholders was that ECDC's existing processes, procedures and quality assurance mechanisms would facilitate an extension of the mandate. These are perceived to be engaging, participatory and translatable into new areas of scope. Consulted stakeholders also mentioned that the working practices with Operational Contact Points (OCP) and Focal Points work well and allow for an extension of the scope of the Centre's mandate. A critical point was raised towards ECDC's bureaucracy. The consulted stakeholders view it as being too heavy and slow moving. In order for the Centre to be able to extend its mandate, stakeholders suggest working towards a lighter bureaucracy, as its current bureaucracy state is not viewed as helpful with a mandate extension.

One comment that was frequently made by interviews stakeholders was **ECDC's reputation and prestige**. It is noted to be a relevant facilitator for an extension of its mandate, as the Centre is well respected under European policy makers and on a European level as whole (see EQ 1 and EQ 2, SEQ 11.6).

Finally, the majority of stakeholders believed that an extension of the mandate is only possible with an appropriate increase of its resources. Almost all stakeholders surveyed and interviewed agreed that both **financial and human resources** are required to open the door for an extension of ECDC's mandate.

As already mentioned, a focus group with representatives of EU-level stakeholders<sup>107</sup> in the areas concerned by the considered extension of ECDC's mandate in non-communicable diseases was organised in order to validate the strengths, weaknesses, opportunities and threats identified by the evaluation team in a SWOT model. As can be seen from the model presented in Figure 12, the opportunities presented by a scenario in which the Centre's mandate is extended are considerable, whereas the threats and weaknesses mainly relate to legal and financial constraints that can be resolved through legislative means.

Figure 12 SWOT Analysis of the extension of ECDC's mandate in the areas of health monitoring, information, determinants, behaviour and promotion<sup>108</sup>

<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>Existing infrastructure (organisation, communication channels) can be scaled up to cover other areas of public health</li> <li>Existing experience and success in public health tasks</li> <li>ECDC's expertise and reputation for delivering quality data</li> <li>Existing network in public health institutions in the EU and internationally</li> </ul>	<p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>No existing expertise on or experience with non-communicable diseases</li> <li>No mandate for ECDC to work in the area of non-communicable diseases</li> <li>There is still room for improvement in ECDC's implementation of its current mandate on non-communicable diseases</li> </ul>
<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>Increased sustainability and efficiency of EU-level activities in these areas compared to current approach</li> <li>Creating a link and synergies between EU-level work on communicable and non-communicable diseases and support breaking the silos in these two areas at national level</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>Risk of diluting ECDC's current mandate with negative effect on ECDC's current activities in the area of communicable diseases</li> <li>Challenge of revising existing EU-level framework in these areas and preventing duplication with other organisations</li> </ul>

The focus group did not cover the area of cross-border threats to health from environmental or chemical origin, but based on the analysis under SEQ 3.1, it can be concluded that the general direction of the main strengths, weaknesses and threats are similar to those identified for non-communicable diseases. In terms of strengths, the Centre's current involvement in HSC activities and the EWRS can be highlighted, and the main opportunities is that such an extension would ensure a more aligned implementation of the all-hazards approach of Decision 1082/2013. The weaknesses and threats relate to the current absence of permanent expert capacities in these areas in the Centre and the need to revise the relevant legal instruments.

**In summary, although ECDC does not have existing capacities in the areas of non-communicable diseases or threats to health from environmental and chemical origin, the Centre's existing infrastructure, processes and tasks could become the basis for synergies in the event that the mandate is extended. Other strengths are to be found in the Centre's existing expertise and reputation for delivering high quality of scientific advice and technical assistance. The opportunities stemming from an extension of the mandate to the non-communicable disease areas considered are related to the expected increased sustainability and efficiency of EU-level activities in these areas and the potential for link and synergies with ECDC's communicable diseases related work, that could also encourage more integration at national level. The main opportunity from an extension of the mandate to cross-border threats from environmental and chemical origin can be found in the potential for more aligned implementation of the all-hazards approach of Decision 1082/2013. The threats and weaknesses for the Centre from an extension of its mandate relate to legal and financial constraints that can be resolved through legislative means.**

# Evaluation of Effectiveness

## **EQ 4: To what extent has ECDC been effective in meeting each of its core objectives as required in its Founding Regulation and Decision 1082/2013/EU?**

### **SEQ 4.1 To what extent has ECDC integrated the additional work resulting from Decision No 1082/2013/EU in its current working methods and deliverables in line with the specified scope and timeframe and how were tasks originally given to the Centre as part of its Founding Regulation affected?**

Although ECDC has carried out a number of additional activities in support of the implementation of Decision 1082/2013<sup>109</sup>, the Decision as such is understood by consulted stakeholders<sup>110</sup> to have reinforced rather than fundamentally changed the mandate of ECDC in the area of surveillance, preparedness and response to threats from communicable diseases, based on its Founding Regulation. This was also indicated in discussions of the ECDC Management Board<sup>111</sup> and stated in the Centre's programming and reporting documents<sup>112</sup> and the report on the implementation of the Decision by the European Commission.<sup>113</sup> As noted in the report of the European Court of Auditors (ECA) on the implementation of the Decision, it specifically attributes tasks to ECDC for epidemiological surveillance and early warning and response, but not for support on preparedness planning.<sup>114</sup> The Court established that ECDC's role and responsibilities in relation to generic preparedness were not formally defined and agreed, either through updates of the relevant legislation or, for example, in a written agreement between the Commission and ECDC, endorsed by ECDC's stakeholders, which results in insufficient formal clarity on ECDC's role in these activities. The Action plan prepared by the Commission in collaboration with the HSC and ECDC to address the findings of the ECA reports listed explicitly follow up actions in which ECDC will be involved.<sup>115</sup> Furthermore, the Preparedness and Response Strategy of the Centre, which was still under development at the point of carrying out the evaluation, includes a list of current and potential ECDC emergency preparedness and response activities in support of Decision 1082/2013/EU.<sup>116</sup> Nevertheless, as discussed under SEQ 3.1 on the potential extension of ECDC's mandate, the majority of stakeholders surveyed for the evaluation considered that there is a need to extend the Centres' mandate in the area of cross-border threats from areas other than communicable diseases, which would create room to align the scope of the Centre's work on preparedness to that of Decision 1082/2013.

Following the adoption of the Decision, the Centre's 2015 Work Programme Priorities<sup>117</sup> included specific activities dedicated to supporting the implementation of Decision 1082/2013 in the areas of preparedness<sup>118</sup> and communication.<sup>119</sup> Furthermore, in response to the adoption of the Decision, ECDC re-organised its structure by creating a new dedicated section (Country Preparedness Support) in July 2013 in the Public Health Communication Unit (PHC).<sup>120</sup> An update of the existing Early Warning Response System (EWRS) was undertaken in 2014 in order to adapt it to report chemical, biological and environmental health threats in line with the all hazards approach to cooperation between Member States and the Commission set out in Decision 1082/2013. Under the obligations of Article 4 of Decision 1082/2013 ECDC also assists the Commission in analysing the information Member States provide on their preparedness arrangements. ECDC is a key contributor in meetings of the Health Security Committee, where the risks assessments prepared by the Centre are presented and discussed (see SEQ 4.2 on Rapid Risk Assessments for more information on the evaluation of these). Furthermore, ECDC was involved in meetings in the informal Health Security Committee prior to the adoption of the Decision.<sup>121</sup>

In its report to the European Parliament and the Council on the implementation of Decision No 1082/2013/EU, the Commission stated that the efforts made by ECDC regarding the response to threats and the technical guidelines and advice provided were effective in supporting the EU to respond in a coherent way to such threats.<sup>122</sup> The report recommends that a mechanism for evaluating how Member States have used the technical guidelines, options for actions, advice to travellers, and other technical documents provided by the Commission should be developed. A survey of the use of RRAs carried out in 2018 showed that for the sample of 5 recent RRAs selected, there were high levels of recognition, use and appreciation by the 14 Member States who took part.<sup>123</sup> However, the survey did not provide more detailed information on how the assessments have been used and as a result did not demonstrate clearly the impact of the Centre's work.

The requirement for ECDC to implement tasks under Decision 1082/2013 was not accompanied by an increase in the EU subsidy for the Centre (see analysis under efficiency EQ 21.1) and as such activities in this area have been handled under the Centre's existing resources. Information provided by ECDC shows that the human and financial resources committed specifically to activities related to Decision 1082/2013 in 2015 and 2016 were relatively minor (below EUR 100,000 and less than 2 FTEs), with more resources committed in 2017 (EUR 246,435, 3.27 FTEs) when the Centre

was involved in the reporting mechanism under Article 4 of the Decision. Other activities of the Centre (e.g. capacity building and support to Member States in strengthening their public health preparedness capabilities) also contribute to the implementation of the Decision. According to interviews with Centre staff, the reallocation of resources to such activities did not have any long lasting negative effects on other functions of the organisation as per the Founding Regulation.<sup>124</sup> Interviews with other stakeholders also did not reveal any concerns about a negative effect of the additional tasks on the existing tasks of the Centre. In addition, the revision of EWRS, which was partly due to the use of the platform for the implementation of Decision 1082, was consistently praised by its users, which can be considered as an example of positive effect on the existing tasks.

The 2016 Court of Auditors report noted that the Commission and ECDC had not yet taken substantial action to further enhance the EWRS and develop integrated solutions for situational awareness and incident management for serious cross-border threats to health.<sup>125</sup> It further noted that ECDC's efforts to address issues in epidemiological surveillance data reporting have not yet been fully effective to ensure optimal data comparability and quality. While the update of EWRS will be completed in late 2019, there are remaining issues with the effectiveness of the epidemiological surveillance systems according to the analysis carried out for the evaluations of EU/EEA public health surveillance systems (EPHESUS)<sup>126</sup>. As discussed under EQ 4.5, early results of the evaluations of both the Legionnaires Disease surveillance system and the Food and Waterborne Diseases surveillance system find that there is systematic under-ascertainment/under-reporting in a number of countries across Europe, which can be interpreted as an issue with the overall level of compliance of Member States with the obligation to carry out surveillance laid down in Decision 1082/2013. As discussed under SEQ 22.3, there is evidence of good cooperation between ECDC and the Health Security Committee.

**In summary, the adoption of Decision 1082/2013 generated additional tasks for ECDC but did not lead to additional budget for the Centre. The additional tasks were thus integrated in the activities of the Centre under its original mandate and the evaluation did not identify evidence of any negative consequences of this. The evaluation did not identify any evidence of tasks mandated by the Decision that have not been implemented by ECDC, but there is remaining room for further clarification of ECDC's mandate in the area of preparedness in areas other than communicable diseases and there are remaining issues with the comparability and completeness of data collected through the surveillance networks.**

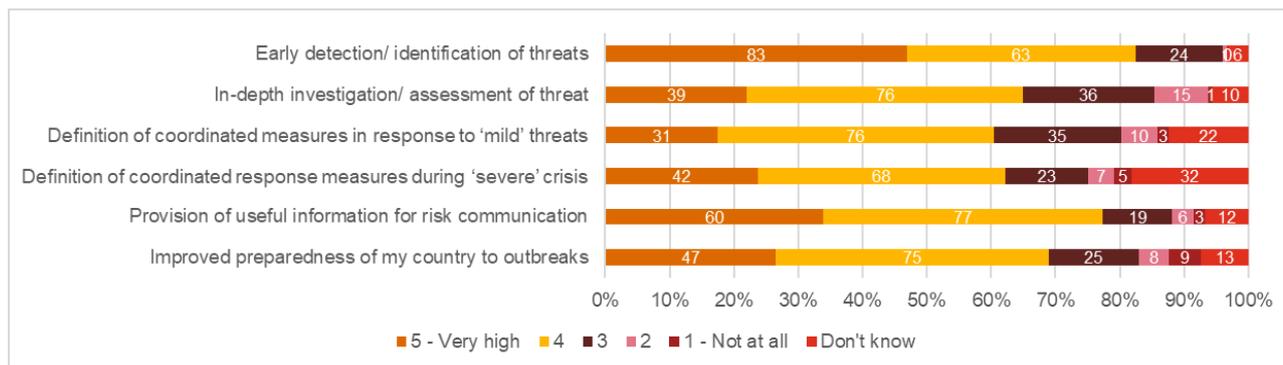
#### **SEQ 4.2 To what extent does ECDC effectively use its services to respond to current and emerging health threats from communicable diseases?**

According to its Founding Regulation<sup>127</sup>, ECDC's mission should be to '*identify, assess and communicate current and emerging threats to human health from communicable diseases*'. In addition, Article 9 on Scientific and technical assistance and training states that '*the Centre shall provide scientific and technical expertise to the Member States, the Commission and other Community agencies in the development, regular review and updating of preparedness plans, and also in the development of intervention strategies*'. In addition, the Centre has a complementary role in supporting the Commission and Member States to further develop, strengthen and maintain their capacities to monitor, identify and respond to serious cross-border health threats, in line with Decision 1082<sup>128</sup>.

To achieve this, ECDC offers services to identify, assess and communicate current and emerging health threats from communicable diseases as well as providing support for preparedness to Member States, the Commission and other relevant actors. Below we perform a more in-depth analysis using a sample of services and outputs delivered by the Centre's for responding to current and emerging health threats from communicable diseases.

Firstly, consulted stakeholders provided an assessment of the Centre's overall contribution to different aspects of early detection of threat and response. As can be seen in the following figure, a high percentage of surveyed respondents (78%) were satisfied with the Centre's dissemination of information on threats to a "high" or "very high" extent, as well as its early detection, filtering and validation of threats (71%) and investigation and assessments of threats (70%). In line with the precautionary principle under which ECDC is mainly responsible for risk assessment rather than risk management, a somewhat lower share of survey respondents (61% and 62% respectively) rated their satisfaction with ECDC's contributions to coordinated response measures in response to mild threats and severe crises as "high" or "very high".

Figure 13 Please rate the extent to which you are satisfied with the following ECDC contributions to early detection of threat and response: (n=441)



ECDC provides several tools and services to identify, assess and communicate data on threats. Those which were most frequently used by survey respondents are displayed in Figure 20 under SEQ 4.5. To analyse this question further in depth, we perform an analysis on a sample of ECDC products, tools and services for responding to current and emerging health threats from communicable diseases, including their Rapid Risk Assessments, their round table reports and their technical coordination during a public health emergency, as well as the Commission’s Early Warning and Response System, operated by ECDC. The sample was chosen to cover the relevant services ECDC offers for responding to current and emerging health threats, covering both epidemic intelligence services for the detection of threats and services for supporting the response to outbreaks.

### Rapid Risk Assessments

Rapid Risk Assessment reports provide epidemic intelligence to support the response role of Member States by providing them a timely summary and risk assessment of a public health threat related to a specific event as well as potential options for response.<sup>129</sup> A total of 226 RRAs produced and 199 published over the period covered by the evaluation (see Table 3). In terms of their use, as shown in Figure 20 under SEQ 4.5, ECDC Threat Reports (including Rapid Risk Assessments) were the ECDC outputs most frequently used by survey respondents and evidence shows that they are an effective tool for surveillance of current and emerging threats.

Table 3 Number of ECDC RRAs produced and published 2013-2017

	2013	2014	2015	2016	2017
RRAs produced	30	42	50	43	41
RRAs published	24	39	42	38	38

Documentary evidence and consulted stakeholder feedback, the RRAs are an effective tool for responding to current and emerging health threats. The RRAs have been positively received by Member States and are frequently used at the EU-level to coordinate response and inform possible response measures<sup>130</sup>. RRAs were mentioned in 9 out of 11 Health Security Committee’s flash reports published between 2016-2018 and covered a range of current and emerging diseases within Europe (AMR, measles, Smallpox, salmonella) and abroad (Dengue, Zika, the plague). ECDC RRAs were also positively referred to in two European Court of Auditors (ECA) special reports on the topic of coordination of responses to disasters outside the EU and dealing with serious cross-border threats in the EU<sup>131</sup> as well as an EC report on the implementation of Decision 1082.<sup>132</sup>

These findings are supported by evidence from stakeholder feedback. ECDC 2014 and 2015 stakeholder surveys<sup>133</sup> found 87% and 92% satisfaction with the RRAs respectively. As shown in the following table, there was also an increase in stakeholder satisfaction across the different criteria between the two years. The usefulness of the reports were the most highly rated quality of the RRAs in both stakeholder surveys and by the 3<sup>rd</sup> External Evaluation survey respondents. Other benefits which emerged from consulted stakeholder feedback included the resource savings incurred by Member States as a result of the reduced need for them to carry out the equivalent epidemic intelligence activities at national level. It was also pointed out by multiple stakeholders that ECDC producing these documents avoids duplicate efforts between Member States in carrying out these activities, and furthermore, adds value by ensuring that Member States discussions on emerging threats start from a harmonized basis in terms of the scientific evidence.

The timeliness of the reports was an area, which received less support from stakeholders consulted for both ECDC stakeholder satisfaction surveys and the current evaluation.<sup>134</sup> Nevertheless, documentary evidence shows that the timeliness of the reports have improved over the evaluation period with 82.5% of RRAs delivered within the agreed

timeline in 2015 and 100% in 2017<sup>135</sup>. In addition, consulted stakeholder feedback indicates that there is a general consensus that the timeliness of the RRAs is generally high when taking into account the quality of the reports produced, and that they would prioritise the higher quality of the RRAs over shortening the timeline in which they are produced. Nevertheless, given that an outbreak requires timely information, suggested few consulted stakeholders who raised the topic suggested that a positive improvement to the service would be the publication of short, succinct situation reports ahead of the full RRAs on outbreaks to give Member States a prompt overview of the situation.

*Table 4 Share of surveyed ECDC stakeholders indicating high or very high satisfaction with different quality indicators of RRAs<sup>136</sup>*

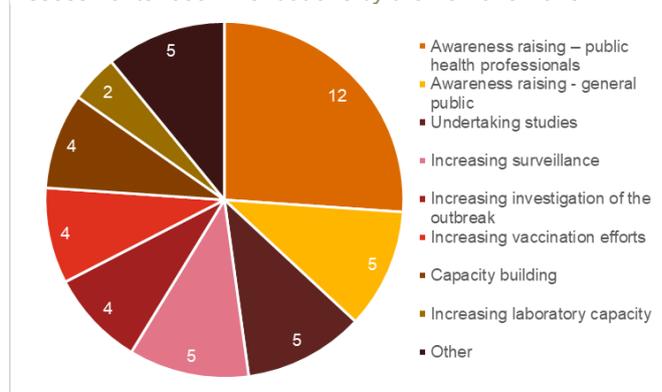
	ECDC stakeholder survey 2014	ECDC stakeholder survey 2015	ECDC 3rd External Evaluation survey - 2018
Usefulness	89%	93%	87%
Timeliness	83%	88%	82%
Independence of judgment	85%	94%	79%
Completeness	88%	93%	83%

Another area which received the least support from consulted stakeholders of the current evaluation related to the independence of judgment in these RRAs. This is in line with the analysis under SEQ 4.11, which finds that there is scope for refining the process of involving external experts in their redaction.

A final influencing factor which emerged as negatively affecting the quality of ECDC RRAs was the relevance of their recommendations for response measures. Consulted stakeholders' feedback indicates that there is scope for improving the RRAs' recommendations. Specifically, it was expressed by multiple consulted stakeholders who used the outputs on a regular basis that the recommendations did not sufficiently take into account the variation between Member States' contexts and/or were too generic, with the examples of the West Nile Virus RRA (13 August 2018)<sup>137</sup> and the joint RRAs with EFSA given on several occasions. The Management Board discussion in June 2017 also demonstrated the expectation of the European Commission that RRAs reflect better the knowledge available to ECDC about the country context from other activities of the Centre, including country missions.<sup>138</sup>

To further test the finding, we performed an analysis of a random sample of 10 RRAs, and classified the recommendations under common themes which emerged from the analysis.<sup>139</sup> As can be seen in the figure, the most common type of recommendation within the sample related to raising awareness, especially amongst public health professionals. However, it should also be noted that the majority of the identified themes in the recommendations require a substantial resource investment from Member States (e.g. undertaking studies, increasing laboratory capacity), which may not be feasible as a short-term measure for less-resourced countries, thereby decreasing the effectiveness of the RRAs for them.

*Figure 14 Sample analysis of 10 ECDC Rapid Risk Assessments recommendations by theme 2013-2018*



Linked to this last point, as to date, ECDC has not carried out an assessment on how the recommendations of the RRAs are having an impact and being used at national level in Member States. In 2018, at the request of DG SANTE, a questionnaire was administered to Health Security Committee members to ascertain how the ECDC RRAs are used and followed up by the Member States. Respondents were asked to assess ECDC RRAs across six dimensions; timeliness, independence of judgement, completeness, usefulness, readability and layout, as well as assess 5 individual RRAs produced in 2018. However, it was confirmed by relevant stakeholders that it was not foreseen to carry out this assessment on a regular basis.

Carrying out a regular assessment, such as the one above, could serve to increase the effectiveness of the RRAs and gather tangible data on their impact in Member States. This was already reflected in a 2015 EC report on the implementation of Decision 1082<sup>140</sup>, which recommended that such assessments should be promoted in the future, as it would support the identification of possible measures to increase the impact of tools such as the RRAs. As such, the report pointed out that further feedback from external and EU colleagues would be of added value in order to better understand their unmet needs. This would also serve as a tool to address the issues identified in the 2014 and 2015<sup>141</sup> stakeholder surveys, which recorded variation in satisfaction with the RRAs across different respondent groups, with lower satisfaction levels amongst external actors and EU institutions. The Centre's staff, as discussed under SEQ 7.2

also expressed support for the usefulness of conducting such a survey, in terms of measuring the impact and usefulness of RRAs, and serving as a basis for their improvement.

### The Early Warning and Response System (EWRS)

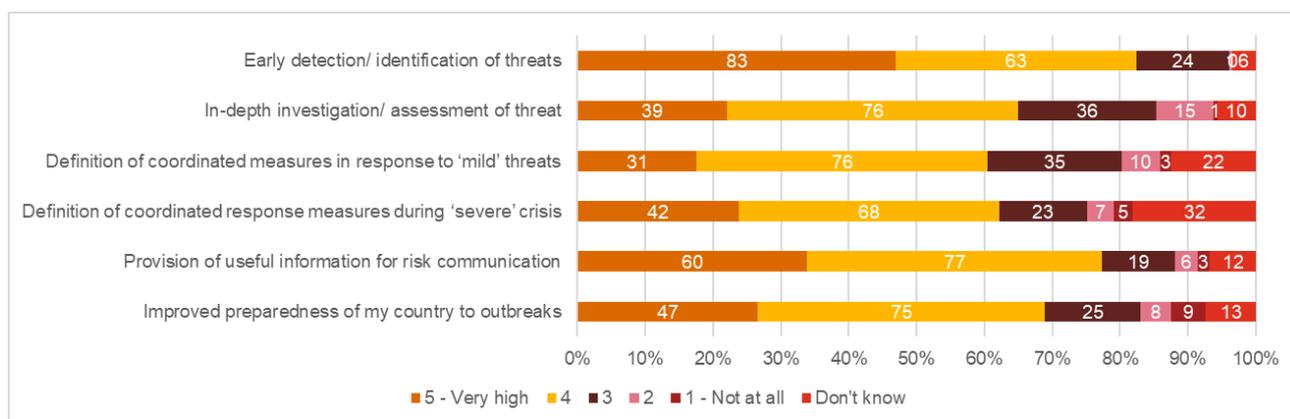
The Early Warning and Response System (EWRS) is an EU tool with restricted access for monitoring public health threats in the EU, and operated by ECDC on behalf of the Commission.<sup>142</sup> Access and posting to the system is confidential and only accessed by ECDC, the Member States and the Directorate General Health and Food Safety (SANTE).<sup>143</sup> The system constitutes a tool for alert and communication, and aims to facilitate the timely collection and dissemination of information related to health threats and the coordination of response activities.<sup>144</sup>

Evidence suggests the EWRS is an effective tool for communication and alert. As discussed under SEQ 4.1, the tool was updated in 2014 in order to adapt it to report chemical, biological and environmental health threats in line with the all hazards approach to cooperation between Member States and the Commission set out in Decision 1082/2013 and the revision was well received by its consulted users. This was supported by an analysis of HSC flash reports, which returned frequent references to the tool, as well as evidence of DG SANTE highlighting the value of EWRS. In addition, it was highlighted that the tool was effective and provided added value in the identification of alerts during the Ebola outbreak.<sup>145</sup>

The effectiveness of the tool in the early detection/identification of threats was also evidenced in an analysis of the Rapid Risk Assessments produced over the evaluation period. Specifically, 53/184 Rapid Risk Assessments produced referenced a notification and/or communication between Member States over the EWRS platform. In addition, the analysis returned evidence of multiple examples in which a notification and/or communication on the platform had catalysed a national or multi-country response to an outbreak.<sup>146</sup>

This is supported by strong positive feedback from consulted stakeholders concerning the tool. Survey respondents were asked to assess the tools' effectiveness in the management of public health threats across a set of indicators and 82% of respondents rated its effectiveness in the contribution to the early detection/identification of threats to a "high" or "very high" extent and 77% concerning the provision of useful information for risk communication. The elements rated the lowest by respondents related to the tool's contribution to the definition of coordinated measures in response to "mild" threats and "severe" crises, although these were still rated as "high" or "very high" by 60% and 62% of respondents respectively.

Figure 15 Based on your direct experience, please rate the extent to which the EWRS platform has been effective in the management of public health threats in the EU (n=177)



An analysis of survey respondents' comments and interviewee feedback show that the key added value of the tool amongst consulted stakeholders is its role in alert and information dissemination. A majority of respondents considered that the information provided in the EWRS messages was sufficient for alerting recipients of threats and facilitate coordination through information exchange. Indeed, multiple consulted users expressed a full trust and reliance on the system in terms of being notified of outbreaks and cited this as a key benefit of the tool for them.

Nevertheless, feedback from consulted stakeholders suggests that an area for improvement concerns an existing overlap in reporting between the EWRS and the WHO-operated International Health Regulations (IHR) notification system. Specifically, that duplicate notifications were often received from the two systems and there was often confusion as to which system to input information first. Secondly, multiple examples were given of when a consulted

stakeholder was requested the same data by both organisations, causing Member States to spend extra time and resources on this task. Although consulted stakeholders acknowledged that improvements have been made by WHO and the Commission to ensure that the information to be reported can be submitted only once in areas such as tuberculosis, HIV and influenza, feedback suggests that fine-tuning is still required in the reporting of other disease areas.

This latter finding was also raised during a 2017 Advisory Forum meetings, in which a member raised a question concerning the complementarity of IHR and EWRS systems, raising the proliferation of systems and as particularly problematic for smaller countries.<sup>147</sup> These findings were also supported in the feedback received from focus group participants.<sup>148</sup>

### Daily Round Table reports and weekly Communicable Disease Threats reports

ECDC also produces daily Round Table reports and a weekly Communicable Disease Threats Report (CDTR) (based on the five daily reports) offering summaries of the information gathered through epidemic intelligence activities regarding communicable diseases of concern to the EU. Evidence shows these reports are an effective tool for surveillance of current and emerging threats.

A report commissioned by the Netherlands Early Warning Committee (NEWC), which aims to identify infectious diseases causing a potential threat to Dutch public health<sup>149</sup>, concluded that these ECDC reports constitute one of the most useful international information sources for identifying threats from abroad. Specifically, the study found that the ECDC Round Table reports were the most complete and timely sources for disease outbreaks between January 2013 and January 2014, having reported 140 out of 178 (79%) threats within the timeframe. The report concluded that an exclusive reliance on the ECDC round table reports and the ProMed-mail<sup>150</sup> would maintain a sensitive Early Warning System.

The effectiveness of the Round Table reports was confirmed by evidence from the evaluation timeframe. Concerning its usage, as can be seen in Figure 20, the daily round table reports were the output with the lowest use amongst survey respondents. Nevertheless, this reflects the fact that they are confidential and only accessible to a limited number of recipients. In contrast, the CDTR is made public and, as can be seen in the figure below, recorded over 32 000 unique page views over the evaluation reference period. In addition, ECDC began to record PDF downloads from the CDTR website as of July 2017 and recorded 20 729 downloads between July and December 2017. The top user countries were Italy, Sweden, Spain, UK and France. The portal recorded 24 419 downloads via the public web portal in 2018. These high levels of usage point towards its effectiveness and utility for users.<sup>151</sup>

Figure 16 CDTR landing page unique page views 2013-2017<sup>152</sup>

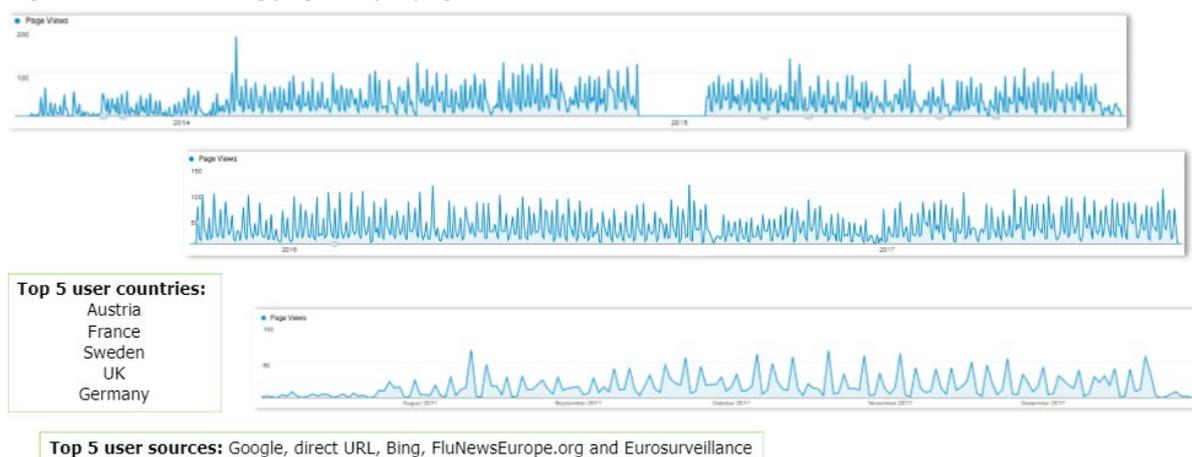
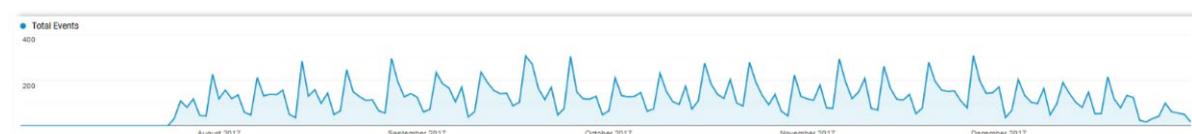


Figure 17 Number of PDF downloads from the CDTR August – December 2017<sup>153</sup>

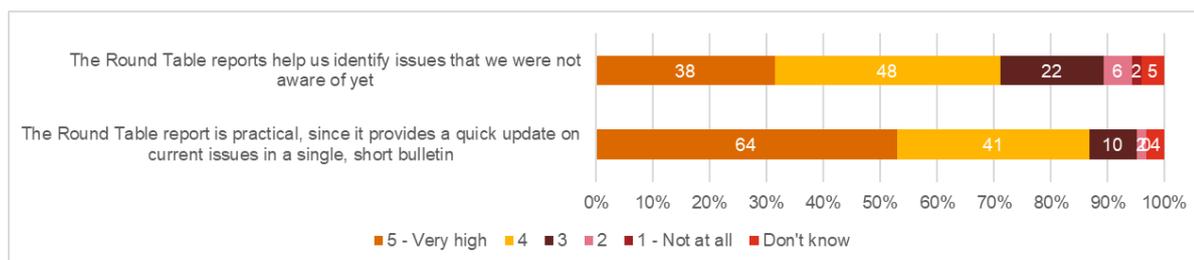


Evidence of the effectiveness and utility of the daily Round Table reports and CDTR was found in the analysed documents. Amongst respondents to the 2015 ECDC stakeholder survey<sup>154</sup>, the CDTR was the most well-known scientific publication (79%) as well as the most frequently translated, shared locally and the output that most decisions were taken on.<sup>155</sup> Secondly, 70% of Member State respondents to a questionnaire disseminated under the EPHEUS evaluation on Legionnaires' disease<sup>156</sup> considered that the daily Round Table reports contributed to meeting EU Legionnaires' disease surveillance objectives. Nevertheless, they did not consider that they could replace routine indicator-based surveillance, as suggested by the NEWC report.

The above findings were supported by feedback received from consulted stakeholders under the current evaluation. As can be seen in the figure below, survey respondents showed high levels of satisfaction with the Round Table reports. Specifically, 87% of the survey respondents considered that the Round Table reports are practical, since it provides a quick update on current issues in a single, short bulleting and 71% that they help them to identify issues that they were not aware of yet. In addition, multiple stakeholders were able to provide practical examples of their use in responding to threats at the national level, e.g.;

- An interviewed stakeholder from Spain, reported that their institute had a dedicated individual who systematically analysed the contents of the CDTR and RT reports and disseminated the relevant information to epidemiologists working in the relevant areas;
- An interviewed stakeholder working in the national PHI in Norway also reported having a dedicated individual who systematically analysed the contents of these reports and reported relevant information in a weekly meeting;
- A consulted stakeholder from Egypt reported showcasing the information of a Round Table report to policy makers in the context of a discussion on the establishment of their epidemic intelligence system.

Figure 18 To what extent do you agree with the following statements concerning the Round Table report: (n=121)



### EU-wide technical coordination during public health emergencies

Finally, we analysed the Centre's contribution in the context of response to outbreaks which occurred over the reference period by way of references to its outputs in documents and stakeholder feedback. Results show that ECDC's support to outbreaks is considerably effective and of particularly strong added value when these outbreaks originate outside the EU<sup>157</sup> and across multiple countries.

The effectiveness of ECDC's technical coordination activities was especially highlighted in cases of outbreaks originating from outside of the EU. This was particularly the case in relation to the outbreak of Ebola in West Africa, during which ECDC mobilised 62 experts to support the response in Guinea as part of the US CDC/WHO request for assistance<sup>158</sup>. This proved both successful and valuable to the international response against the Ebola outbreak in Guinea, as discussed in SEQ 4.3.<sup>159</sup> ECDC's contribution to this outbreak was also given as an example of when it positively contributed with technical assistance during an outbreak in 19 separate interviews and 47 open comments in the survey. Their contribution to the Zika outbreak was also given as an example in 13 separate interviews and 35 open comments in the survey.

The majority of other examples provided by consulted stakeholders referred to ECDC's technical coordination during multi-country outbreaks within the EU. The example of a multi-country outbreak of Salmonella enteritidis<sup>160</sup> in 2016 was frequently provided as an example ECDC's contribution to coordination with relevant authorities in the various Member States, as well as at the EU level, was highlighted as having effectively facilitated the coordination of investigation and response measures. ECDC's added value in terms of their support in providing Whole Genome Sequencing (WGS) services to affected countries was also highlighted by a number of consulted stakeholders who had been involved in the outbreak.

The effectiveness and timeliness of support of ECDC and the synergies provided by the different areas of its activities can be observed in the following case study of the Centre's role during the response to a multi-country outbreak in Romania and Italy in 2016.

In 2016 ECDC experts joined the outbreak investigation team of the National Institute of Public Health of Romania and the Romanian Ministry of Health within 8 days of the alert for a haemolytic uraemic syndrome (HUS) outbreak.<sup>161</sup> Samples were sent for analysis at ISS in Italy. Active case finding was promoted at the national level by the public health authorities (using ECDC case definitions) and resulted in the identification of cases that could have remained undetected. Subsequent application of microbiological and serological techniques, the latter performed with ECDC support, brought evidence of the cause of infection.<sup>162</sup> Soon after the description of the first cases in Romania, Italy reported one HUS case with epidemiological link to Romania through the Early Warning and Response System (EWRS) of the European Union, suggesting that a multi-country outbreak of Shiga toxin-producing Escherichia coli (STEC) infections was ongoing.<sup>163</sup> The cause(s) of the outbreak observed in Romania remained unknown in spite of evidence of an epidemiological link with the consumption of contaminated dairy products from local producers. Nevertheless, the outbreak clearly showed the need to rapidly detect and characterise the STEC strains causing human diseases with molecular typing techniques in order to understand their epidemiology and circulation, and thereby support targeted measures that limit human exposure to the source of infection and to adopt a sensitive national surveillance system for STEC infection and HUS.<sup>164</sup>

**In summary, ECDC can be considered to effectively use its services to respond to current and emerging health threats from communicable diseases. They are particularly effective in raising awareness of diseases via epidemic intelligence gathering activities and the dissemination of non-confidential information.**

**ECDC Rapid Risk Assessments are one of the most used and effective of the Centre's outputs. Findings show that RRAs are of high quality and frequently used to coordinate and inform response measures, especially at the EU level. However, stakeholder feedback and a sample analysis of RRAs suggests there may be scope for increasing the effectiveness of their recommendations by further ensuring that they are specific enough to allow Member States to apply them practically, and take into account different Member States' national contexts. In relation to this, the evaluation found that ECDC does not carry out regular assessments of how the recommendations included in its RRAs are being used by Member States. Carrying out such an assessment could increase their effectiveness in providing the best possible service and value in risk assessment to support the Member States in their response activities by allowing ECDC to adapt them where identified as necessary. In addition, such an assessment would allow the Centre to gather tangible data on the impact of this output at the national level.**

**The Early Warning and Response System (EWRS), operated by ECDC on behalf of the Commission, was also found to be an effective system for alert and communication, with evidence of its use in notifying and/or coordinating response activities in cases of outbreak. Nevertheless, there is evidence of the need to address a continuing overlap in notifications and reporting between the EWRS and the WHO-operated IHR notification system.**

**ECDC daily Round Table reports and weekly Communicable Disease Threats reports are also assessed to be effective in responding to current and emerging health threats from communicable diseases, primarily as a result of their providing stakeholders with timely information on current issues. They are being routinely used as source of epidemic intelligence across various Member States.**

**Finally, findings show that ECDC's technical coordination were particularly effective in outbreak originating outside of the EU or involving multiple countries over the evaluation period.**

#### **SEQ 4.3 To what extent does the Centre effectively provides its services to respond to outbreaks of illnesses of unknown origin?**

According to Article 3 Centre's Founding Regulation<sup>165</sup>, ECDC has a role in responding to outbreaks of illnesses of unknown origin. Specifically;

*'The mission of the Centre shall be to identify, assess and communicate current and emerging threats to human health from communicable diseases. In the case of other outbreaks of illness of unknown origin, which may spread within or to the Community, the Centre shall act on its own initiative until the source of the outbreak is known. In the case of an outbreak which clearly is not caused by a communicable disease, the Centre shall act only in cooperation with the competent authority, upon request from that authority.'*

Over the period of the evaluation, the only case in which ECDC was involved in the response to illnesses of unknown origin was in 2013. Specifically, ECDC began monitoring the epidemic in West Africa when an illness of unknown origin was reported in a rural area of Guinea until March 2014 when the outbreak was identified as the Ebola virus.<sup>166</sup> Following this, and at a request of the US CDC and WHO Europe, ECDC initiated its first major contribution to outbreak response activities in the field via the mobilisation of 62 experts deployed through WHO GOARN to support the

international response in Guinea over 2014 and 2015.<sup>167</sup> Documentary evidence and stakeholder feedback discussed in the previous section indicate that this response was considered effective, although this leads or led to a postponement in the delivery of some other ECDC activities in order to deal with the prioritisation of the response to Ebola (see SEQ 1.2).

An ex-post evaluation of the initiative concludes that the mobilisation of experts by the Centre proved both successful and valuable to the international response to the Ebola outbreak in Guinea. 87% of stakeholders consulted under the evaluation agreed that ECDC's teams of experts performed activities which were of added value and 100% of external stakeholders reported that the Centre's intervention was in line with the actual needs and situation in the field.<sup>168</sup>

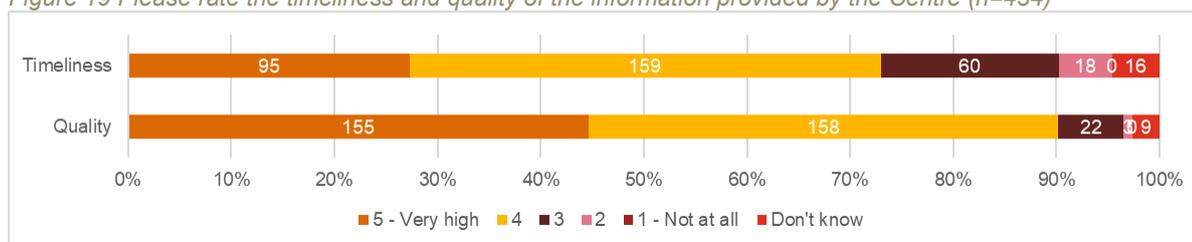
**The Centre was found to have effectively provided its services to respond to the outbreak of illnesses of unknown origin which occurred over the reference period. The evaluation did not come across evidence of a need to improve the Centre's work in this area.**

**SEQ 4.4 To what extent does the Centre provide timely and adequate information to the Commission, Member States, decentralised agencies, international organisations?**

One of the main objectives of ECDC relates to information provision to the Member States and EU institutions, as well as decentralised agencies and international organisations. The main risks here lie in that the disseminated information is seen by stakeholders as irrelevant or inadequate.

At a global level, consulted stakeholders indicated very positive support for the timeliness and quality of the information provided by the Centre, with a degree of variation amongst different stakeholder groups. As can be seen in the figure below, 90% of the surveyed respondents rate the quality of the information provided by the Centre as "high" or "very high", followed by 73% concerning its timeliness. Ratings for both the timeliness and quality of the information provided by the Centre were recorded amongst decentralised agencies and international organisations than amongst Member State actors. Within the different groups of Member State representatives, 100% of regional / decentralized government representatives rated the timeliness and quality of ECDC information as high or very high while 87% of central government representatives rated the same way concerning its timeliness and 92% for its quality. Concerning public health institute (PHI) representatives, 74% of PHI representatives rated the timeliness of the Centre's information as "high" or "very high" and 94% rated the quality information as "high" or "very high". An analysis of the survey comments indicates that the PHI representatives gave a lower rating due to their perception that improvements remained to be made in the Centre's timely production of RRAs. In addition, multiple suggested that the production of faster situational reports ahead of the RRAs would be beneficial. Both of these points are discussed in further detail under SEQ 4.2.

Figure 19 Please rate the timeliness and quality of the information provided by the Centre (n=434)



To analyse the provision of timely and adequate information to the relevant stakeholders, we analyse two of ECDC's Scientific Advice outputs; expert opinions and evidence based guidance. ECDC's Scientific Advice outputs are aimed at supporting the informed decisions and actions at EU- and country-level by summarising the evidence and describing the strengths and limitations of different public health options to prevent and/or control communicable diseases. As such, they represent a relevant output to assess the extent to which the Centre is providing timely and adequate information to the Commission, Member States, decentralised agencies and international organisations.

**Expert opinions**

One of the objectives of ECDC's scientific activities is to provide added value to Member State and EU bodies through the provision of authoritative and reliable evidence-based scientific opinions and guidance. Under this context, ECDC releases expert opinions expressing the scientific views or comments by a group of designated experts based on a review of scientific evidence and/or expert opinion. Over the period of the evaluation, the Centre produced on average 3 expert opinions per year over the evaluation period, albeit with significant variation between the years; with 4 published in 2016 but none in 2014<sup>169</sup>.

Evidence shows that the expert opinions have proved effective both at the EU and national levels. For instance, ECDC expert opinions were positively referenced in 7/24 Advisory Forum (AF) minutes<sup>170</sup> analysed, and in each year that an expert opinion was produced by the Centre. AF members frequently praised the usefulness of the expert opinions and gave examples of their use in the national context, including in decision-making processes. An ECDC expert opinion was also referenced in a 2018 Commission staff working document on the topic of combatting HIV/AIDS<sup>171</sup>.

This was supported by the feedback from stakeholders consulted under the current evaluation. As shown in the figure above, the usefulness of expert opinions received support from the majority (65% rating it “high” or “very high”) of surveyed stakeholders. Although lower support was received for this output in comparison to evidence based guidance and other information produced by ECDC, this likely points to a weaker familiarity with the output, evidenced by the high number of “don’t know” answers (17%) in comparison to evidence based guidance (8%) and other information (7%). In addition, there appears to be a correlation between stakeholder groups familiarity with the output and their support for the output. For instance, 3% of AF member respondents replied “don’t know” and 74% rated their usefulness as “high” or “very high”. In comparison, 36% of Operational Contact Point respondents responded “don’t know” and a corresponding 53% rated their usefulness as “high” or “very high”. In addition, there was a positive consensus amongst survey respondents and interviewed stakeholders concerning the scientific quality and trustworthiness of these opinions. Several stakeholders described them as ‘highly professional’, ‘well balanced’ and ‘evidence based’.

Finally, multiple consulted stakeholders were able to offer examples of when they had used an ECDC expert opinion and a positive outcome or benefit. For instance, a microbiologist working in the field of environmental health identified ECDC’s expert opinion on Whole Genome Sequencing (WGS) for public health surveillance as particularly helpful in making a case to national policy makers on the benefits of WGS and indicated that this resulted in the allocation of more support to their national laboratory capacities. Another interviewee indicated that they had benefitted from ECDC expert opinions as they gathered expertise from several Member States together to give a European-level opinion. This allowed them to benchmark their national situation and practices, and adopt best practice from other countries. They noted that this thereby also indirectly contributed to the alignment of national situations. There may, therefore, be added value in increasing the number of expert opinions produced and further promoting their dissemination amongst relevant actors

### Evidence based guidance

Another ECDC Scientific Advice output is evidence-based guidance. Over the evaluation timeframe, ECDC published an average of 2.2 public health guidance documents per year. However, it should be noted that the number increased to 8 in 2018, which may have influenced the responses given in the survey due to an increased visibility of the output in comparison to the previous years. Evidence shows that these guidance documents are considered an effective source of information for actors at the EU and national level. For instance, an EC staff working document identified ECDC guidance documents on the topic of HIV as a useful source of information for NGOs, advocacy organisations and others working in the relevant fields. In addition, it identified ECDC’s investments into evidence-based guidance as providing added value to Member States’ efforts to devise effective national strategies and tackling epidemics and providing a regional perspective.<sup>172</sup>

This was echoed by surveyed stakeholders, 83% of whom rated this output’s usefulness as “high” or “very high”, as shown in Figure 19 above. Consulted stakeholders highlighted the benefit of the guidance documents in providing them with a European perspective and allowing them a sense of alignment with neighbouring countries. The highest levels of support were recorded amongst Member State representative respondents (including Central government, regional government), other EU agencies and NGOs.

Supporting the above, the evaluation recorded a multitude of examples of the use of ECDC guidance documents. Responses to the ECDC 2014 and 2015 stakeholder surveys revealed that ECDC public health guidance documents had been used by respondents in benchmarking exercises, information dissemination and to inform national strategies. Multiple PHI survey respondents to the current survey also frequently mentioned being able to use the guidance documents to inform and give weight to the recommendations they formulate for other stakeholders such as national policy-makers. For instance, a stakeholder from Lithuania indicated that ECDC’s technical and public health guidance on HIV supported the prioritisation of HIV in Latvia’s health policy and consequently the national budget allocated to HIV activities. In addition, there was recognition of this from survey respondents representing central governments, many of whom reported indirectly benefitting from ECDC guidance documents through their national PHIs. Guidance documents with the highest value for stakeholders included:

- Public health guidance on screening and vaccination for infectious diseases in newly arrived migrants within the EU/EEA (5 December 2018) (23 survey comments, 3 references in interviews)
- ECDC guidance documents on HIV testing (6 references in interviews)

- Public health guidance on chlamydia control in Europe (7 March 2015) (3 survey comments)
- Guidelines for the surveillance of native mosquitoes in Europe (19 November 2014) (4 survey comments)

### Cross-cutting findings

There is evidence that ECDC could improve the effectiveness of its Scientific Advice activities by enabling more sharing of information between Member States. Over the evaluation period, there have been several calls for increasing the level dissemination of information and sharing of experiences between Member States. Specifically, sharing of best practices and documents produced by individual Member States have been acknowledged as useful for all the countries<sup>173</sup>. This was supported by feedback from consulted stakeholders, many of whom considered that ECDC could play a role in facilitating this by, e.g. establishing a platform on which countries could share documents (e.g. national risk assessments, evidence based guidance documents) with other governments and the scientific community. In addition, that it would be well placed to produce literature reviews identifying best practices.

Another cross cutting finding that emerged in relation to the Centre's information provision activities was the added value of Eurosurveillance, an independent scientific journal hosted by ECDC. The journal is a weekly, peer-reviewed and online scientific journal for communication on communicable diseases, with a focus on topics relevant to European priorities. With 50 issues per year, the journal features short rapid communications, longer research articles, reports, reviews and perspective papers, short news items as well as short authoritative papers in cases of outbreaks or other relevant public health events. E-alerts and special issues can also be published outside its regular publishing schedule under special circumstances.

Evidence suggests that the journal is a key ECDC output, promoting the effective dissemination of information. As highlighted under SEQ 20.1, a case study of the journal shows that both the impact factor and number of annual submissions to the journal increased over the evaluation reference period. In addition, the journal was reported as the second most frequently used ECDC output by survey respondents, behind only ECDC tools and guidance and received overwhelmingly positive feedback from a majority of consulted stakeholders. Specifically, 47 positive and no negative remarks relating to the journal were recorded in the survey open comment boxes. Both survey respondents and interviewees emphasised it as a top scientific journal with a high level of scientific quality. Benefits cited included its effectiveness in disseminating scientific evidence across a wide range of stakeholders including national decision-makers, scientific bodies and associations, as well as public health specialists across a range of disciplines and not necessarily connected with ECDC. Secondly, it was considered to have contributed to the sharing of expertise and evidence between countries and thereby a strengthened cross-border networks of experts in the EU. Finally, several interviewees concluded a considerable benefit had been derived from making this information public by creating a sense of trust and promoting data transparency principles.

Supporting this, the majority of consulted stakeholders who highlighted the journal as a valuable output were able to provide examples of using the information from Eurosurveillance and its outcomes. For instance, interviewees from the UK indicated that they had already used Eurosurveillance publications to inform UK decision-making, e.g. using Eurosurveillance case reports on emerging health threats such as Crimean-Congo haemorrhagic fever (CCHF) and ticks in Spain<sup>174</sup> to inform their own risk assessments, which were in turn used to advise other stakeholders including policy makers. Similarly, stakeholders from Hungary reported using Eurosurveillance publications on a regular basis to inform their public health community and ministerial stakeholders as well as their published materials for their Antibiotic Awareness Day<sup>175</sup>. Finally, Eurosurveillance's special feature on migration health served as a basis for a conference between German regional government stakeholders to discuss their migrant screening implementation<sup>176</sup>.

Finally, there is evidence that the journal's impact extends beyond Europe's borders, with international stakeholders using its outputs. For example, on the 24th of January 2019<sup>177</sup> the Canadian Health Minister re-tweeted a Eurosurveillance Influenza report on vaccine effectiveness in Canada<sup>178</sup>. The report was also subsequently disseminated by the Robert Koch-Institute (RKI) in Germany in their regular 'Arbeitsgemeinschaft Influenza'. There may, therefore be added value in strengthening the journal as a tool for communicating scientific information to a wide audience. This was a point already raised in a 2016 ECDC Management Board meeting.<sup>179</sup>

**In summary, the Centre provides timely and adequate advice, with evidence of several of its outputs' use both at national and EU-level. ECDC expert opinions and evidence based guidance documents emerge as high-quality scientific outputs and have been used to inform activities in the field of infectious disease both at the EU and national level. There are, however, lower levels of awareness surrounding the expert opinions, which may be the result of the lower number of expert opinions produced (an average of 3 expert opinions per year over the evaluation period) in comparison to other ECDC Scientific Advice outputs. Concerning influencing factors, there is evidence that ECDC could increase the impact of its information dissemination activities by**

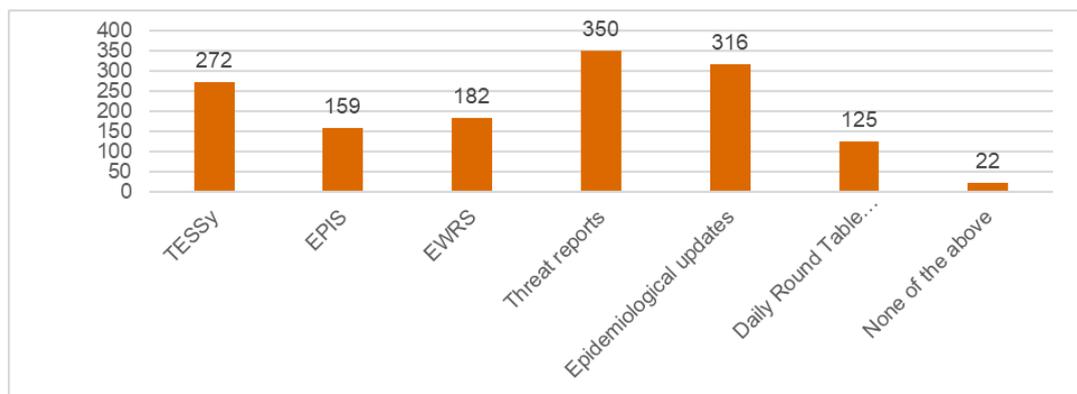
expanding efforts in enabling more sharing of information between Member States by, for instance, establishing a platform on which Member State actors can share documents and information. Eurosurveillance was also highlighted as an effective information output. The journal saw a rising impact factor as well as annual submissions over the evaluation period. In addition, consulted stakeholders expressed high levels of support for the journal and were able to provide examples of its use in national contexts. As such, there may be added value in strengthening the journal as an effective tool for dissemination of relevant information.

*SEQ 4.5 To what extent has the Centre successfully fulfilled its mandate to collect, validate, analyse and disseminate data at Community level, including on vaccination strategies?*

One of ECDC’s core activities, as assigned to it by its legal mandate, is the collection, analysis and dissemination of surveillance data to the Community. Centre performs indicator-based surveillance by collecting data on 56 communicable diseases and related special health issues. Data submissions and validations are the responsibility of a network of disease experts located in and nominated by all EU Member States, Iceland and Norway. The data are then reported on, on a regular basis (annually, weekly, daily), dependent on the requirements resulting from the disease type<sup>180</sup>. The Centre aims to provide benefits to Member States with its surveillance activities via the use of common diagnostic and typing methods, case definitions, metadata and reporting protocols, which allows for a standardised form of reporting and data comparability across the EU.

ECDC uses multiple tools and services to disseminate data, as well as respond to current and emerging health threats from communicable diseases. Survey respondents were asked to rate which ECDC tools and products they used on a regular basis. The most regularly used ECDC outputs were the threat reports and epidemiological updates with 350 (73%) and 316 (66%) of the surveyed respondents regularly using them respectively. Notably, only 22 surveyed respondents reported not regularly using any of the tools or products listed.

Figure 20: Which of the following tools/products do you use regularly? (n=482)

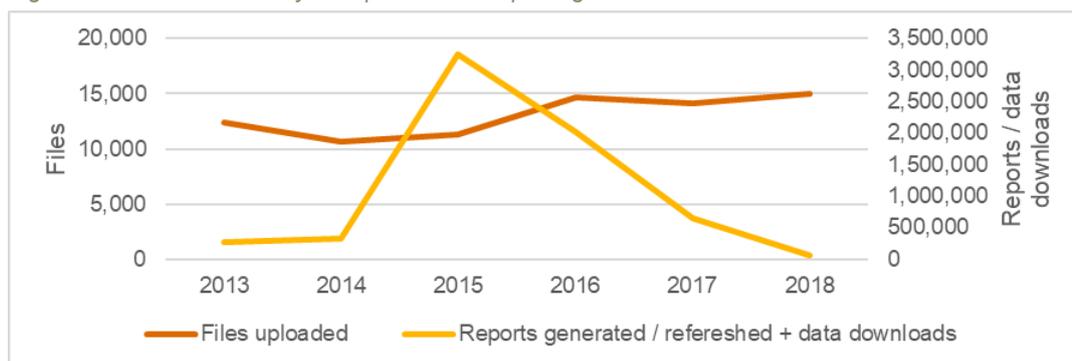


In order to assess the effectiveness of the Centre in fulfilling its mandate to collect, validate, analyse and disseminate data at Community level, we analyse the performance of two of its surveillance tools as well as its collection and dissemination activities under one of its priority areas: vaccination. The European Surveillance System (TESSy) and the Epidemic Intelligence Information System (EPIS) were chosen as a representative sample for the analysis of the Centre’s collection, validation, analysis and dissemination of data, as they cover both areas of the Centre’s surveillance activities. In addition, they are the outputs on which Member States rely most heavily; indicator-based surveillance and event-based surveillance.<sup>181</sup>

**European Surveillance System (TESSy)**

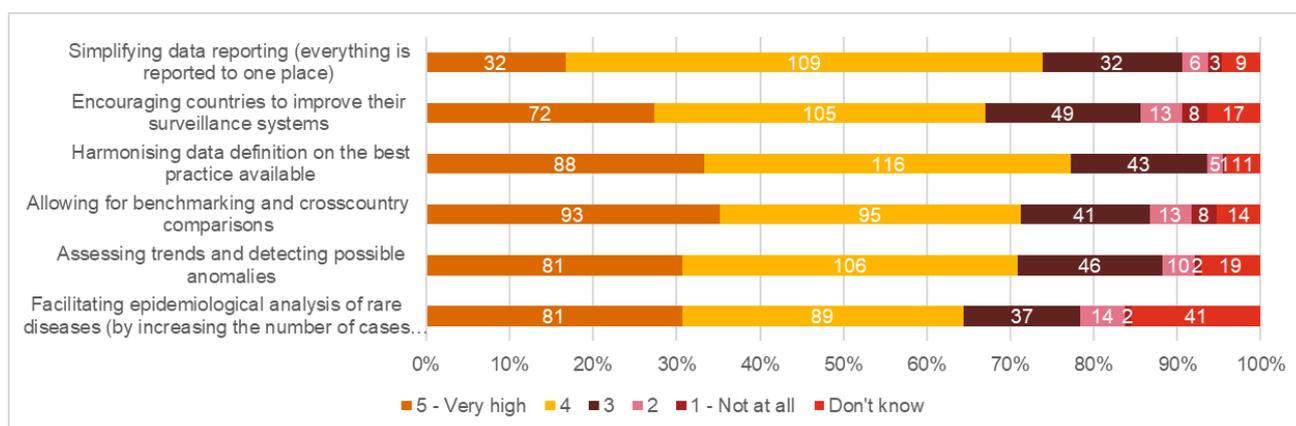
The European Surveillance System (TESSy) is the technical platform for web-based data submission by the nominated surveillance experts, data storage and dissemination. Concerning its usage, as shown in Figure 20 above, TESSy was one of the tools that surveyed stakeholders reported using on a regular basis. Supporting this, as can be seen in the following figure, the number of files uploaded to the database increased over the evaluation period. The amount of TESSy user activity in related to the reports and data contained in TESSy<sup>182</sup> varied considerably over the evaluation timeframe, seeing a peak in 2015 and 2016. This peak was as a result of popular reports such as the Influenza reports and reports on antimicrobial consumption and resistance being made publically available on the ECDC web portal. The Influenza reports were then moved to another website<sup>183</sup> in 2017 as part of the joint surveillance with WHO/Europe, potentially explaining the dip in activity. The low numbers recorded in 2018 were mainly due to an anomalous software defect, during which the activity was not accurately logged.

Figure 21 number of TESSy file uploads and reports generated 2013-2018<sup>184</sup>



Supporting the high and increasing levels of usage, collected evidence demonstrates that TESSy is an effective tool for the collection, validation and dissemination of data and that there have been improvements to the system over the evaluation period. The Second External Evaluation<sup>185</sup> found serious limitations to the use of TESSy data for benchmarking and the analysis of trends. In contrast, the recent EPHESUS evaluation of the European food- and waterborne- disease surveillance system found support that it effectively allows for the identification of trends and detecting possible anomalies, although it is not considered an appropriate tool for detecting outbreaks.<sup>186</sup> This was supported by consulted stakeholder feedback under the current evaluation, which recorded high levels of support for the system's added value. A majority of survey respondents expressed support for the added value of ECDC, particularly its contribution to harmonising data definitions and simplifying data reporting by creating a central repository for surveillance data (see Figure 22). Both survey respondents and interviewees highlighted its contribution to ensuring standardisation among Member States by, e.g. harmonising data definitions on the best practice available. In addition, it was pointed out that this in turn facilitates benchmarking and cross country comparisons, thereby supporting coordination between Member States for surveillance, in line with the findings under SEQ 16.3.

Figure 22: Based on your experience, what is the added-value of TESSy in the following areas? (n=264)



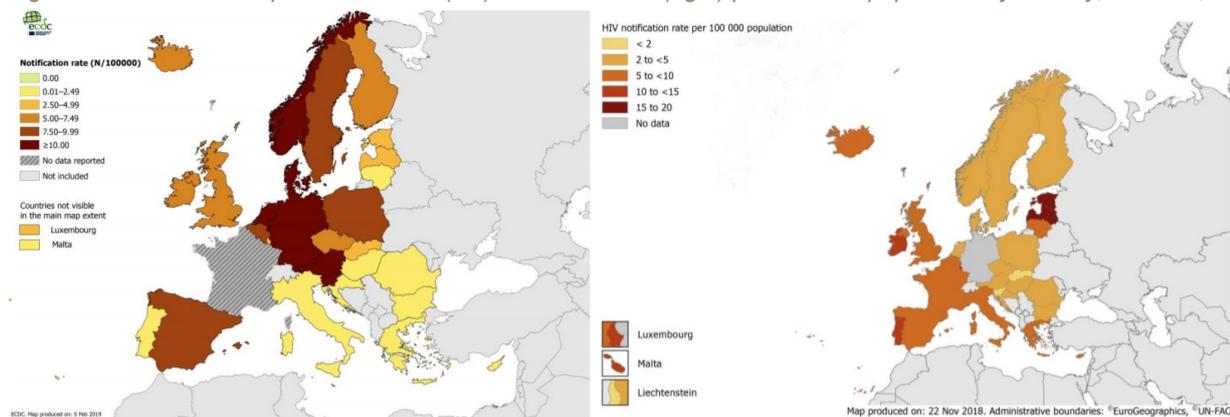
However, in line with the conclusions of the Second External Evaluation report, evidence suggests that there is room for improving the analysis of the TESSy data. Consulted stakeholder feedback under the current evaluation pointed to the need for a stronger collaboration with Member State experts in the analysis of TESSy data, to ensure a robust analysis. This is in line with the EPHESUS evaluation report on the surveillance of FWD, which also concluded that ECDC should increase efforts to work closely with Member States by, for instance, establishing small committees of volunteers to discuss the analyses, in line with recent discussions in the Centre's Advisory Forum in relation to a potential policy on the principles for publication of Member States' data (see also SEQ 4.11).<sup>187</sup> Consulted stakeholders also suggested that dedicated meetings to discuss the surveillance data analysis could be organised with Member State surveillance experts and expert networks.

In addition, despite a slight increase of file uploads over the evaluation period, there remains room for improving Member State reporting into the TESSy database. As discussed under SEQ 16.3 and SEQ 4.1, there is evidence of systematic under-ascertainment/under-reporting in a number of countries across Europe<sup>188</sup> and variation in the quality of data reported. This was also a finding which emerged from the evaluations of EU/EEA public health surveillance systems (EPHESUS).<sup>189</sup> Specifically, the EPHESUS evaluations of the legionnaires' disease surveillance, the food- and waterborne disease surveillance system, and the antimicrobial consumption surveillance system identified variations in data quality and reporting across countries as a weakness in their respective SWOT analyses of the

surveillance systems. In addition, the legionnaires' disease evaluation SWOT analysis identified Member State underreporting as one of the biggest threats, hampering a better assessment of the true burden of the disease in the EU as a whole and implementing actions for improvement at national level. The evaluations did not identify any patterns in the variation of quality across countries, however an East-West geographical pattern was identified in relation to the differences in reporting.

An analysis of the annual epidemiological reports for other diseases confirms that this is an issue which exists in the epidemiology of other diseases, not covered by the EPHESUS evaluations. For instance, as can be seen in the figures below, there is variation in notification rates between Member States for both Pertussis and HIV, with a trend towards lower notification rates in southern countries in the case of Pertussis, and a trend towards lower notification rates in central and northern European countries in the case of HIV.<sup>190</sup> Concerning the surveillance of Pertussis, the Netherlands, Germany and Denmark recording the highest notification rates over the evaluation period, while Greece Romania and Hungary recorded the lowest notification rates. In the case of HIV, Latvia and Estonia recorded the highest notification rates, while Slovakia and Slovenia recorded the lowest.

Figure 23 Distribution of pertussis cases (left) and HIV cases (right) per 100 000 population by country, EU/EEA, 2017<sup>191</sup>



Feedback from consulted stakeholders indicates that the variation in reporting may result from a number of factors including Member States' diagnostic capabilities, discrepant case definitions, national reporting attitudes (i.e. the sensitivity of reporting) and other national contextual factors. As such, some consulted stakeholders considered addressing this issue was beyond the scope of ECDC. This is in line with findings that in general, surveillance reporting between countries is challenged by the variability of national reporting systems and practices.<sup>192</sup> The EPHESUS evaluations suggested that ECDC could help address this issue by providing additional support to Member States to improve reporting levels and quality data in the form of, e.g. trainings, which was supported by consulted stakeholders. A number of consulted stakeholders also considered that providing ECDC with stronger mechanisms for ensuring consistent surveillance reporting is the appropriate solution, given the legal obligations of Member States to carry out surveillance, as laid down in Decision 1082/2013.

### Design and Functionalities

Concerning the design and functionalities of TESSy, the Second External Evaluation identified reporting into TESSy as the most burdensome task required by ECDC of the MS. There is evidence of efforts to improve this over the reference period. For instance, in its Long-term surveillance strategy 2014-2020<sup>193</sup>, ECDC committed to improving users' experience and reducing the burden on Member States when interacting with ECDC surveillance tools, especially in light of financial pressures. In addition, the Centre initiated a surveillance system reengineering project (SSR) in 2015 in response to the Second External Evaluation's findings and aimed at ensuring optimal surveillance platforms, processes and data models.<sup>194</sup> A roadmap was adopted in 2017 and a new surveillance system will be accessible to the Member State stakeholders through a modern and customisable interface that will integrate the functionalities of TESSy and EPIS is under construction.<sup>195</sup> It is foreseen that the new system will ensure a better data flow across the systems, a reduced burden, and efficiency gains. Finally, in 2016 the Centre initiated a four-year evaluation project of EU/EEA public health surveillance systems (EPHESUS) aimed at strengthening their fitness for purpose and efficiency and increase their public health usefulness<sup>196</sup>.

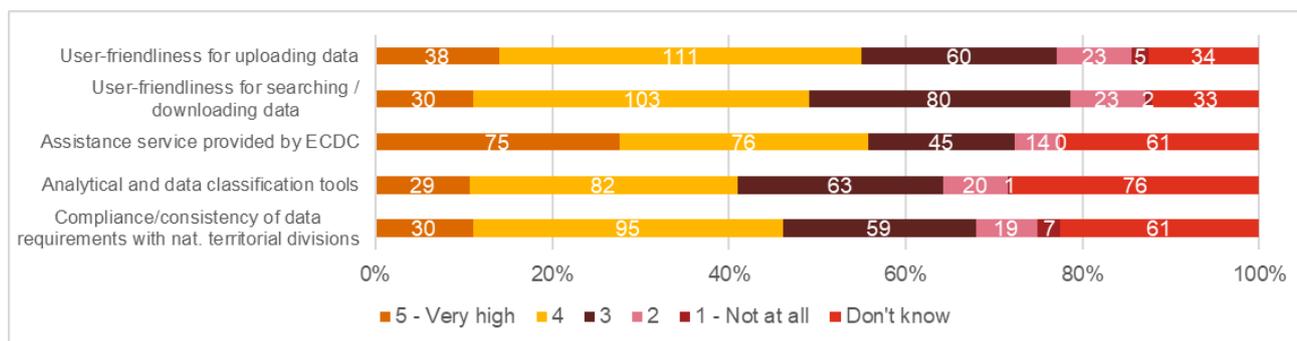
There is also evidence of efforts to promote accurate and timely data collection in to TESSy over the evaluation period. For instance, in 2014 ECDC published a handbook of methods and applications aimed at supporting the daily work of PHPs working with surveillance data on communicable diseases and improve the timeliness of TESSy data collection<sup>197</sup>. In 2013, ECDC provided training to the nominated Croatian TESSy users for reporting surveillance data

in the enlargement country. This was pointed out as a key factor in ensuring the country’s smooth transition<sup>198</sup> and constitutes a good example of how ECDC can contribute to ensuring synergies between national surveillance systems and TESSy.

Data collected under the current evaluation show that these efforts have had a positive impact on TESSy users’ experiences with the system. For instance, in the EPHESUS disease report on the EU/EEA surveillance of antimicrobial consumption, 50% of surveyed Member State representatives reported finding it easy to submit data to the antimicrobial consumption (AMC) TESSy database.<sup>199</sup> A majority of survey respondents to the current evaluation’s survey also positively rated each of the assessed functionalities and supported TESSy’s user-friendliness for uploading the data. The most positive feedback was received by survey respondents on the ECDC-provided assistance for the tool. The comments left by respondents indicated that the vast majority felt they received swift responses to queries they submitted and that the service was of high quality, which marks an improvement on the feedback received in the Second External Evaluation. Suggestions for improvement included implementing a more interactive form of communication apart from classic emails and for the Centre to support on-line webinars and/or support tools for data tool users to train themselves on new developments of the TESSy database.

Other functionalities which received the lowest support from survey respondents included the tool’s effectiveness in ensuring the compliance / consistency of data requirements with national territorial divisions<sup>200</sup> as well as its analytical and data classification tools. Concerning the former, examples were given such as the discrepancy between ECDC and national age group ranges in the SARI database. It was suggested that the alignment of national protocols and data processing methods could be improved by ECDC applying a more consistent and insistent approach to protocols, by simplifying their practices and by increasing their involvement and collaboration with Member States (as above). Concerning the analytical and data classification tools, less than a majority of surveyed stakeholders rated this functionality as “high” or “very high”, with multiple respondents reporting them to be limited. Suggestions for improvement included improving the search functions and improving the Surveillance Atlas’ interactivity to allow users to more dynamically select indicators and parameters for visual and tabulated display.

Figure 24: Based on your experience, please rate the following design and functionalities of TESSy? (n=271)



### Epidemic Intelligence Information System (EPIS)

EPIS is a web-based communication platform that allows nominated public health experts to exchange technical information to assess whether current and emerging public health threats have a potential impact in the EU.<sup>201</sup> The platform aims to ensure transparent and timely information sharing among the participating public health authorities in order to detect public health threats at an early stage and facilitate their reporting and the coordination of response activities.<sup>202</sup> There are five different EPIS platforms to which nominated participating experts from EU/EEA Member States, and a number of non-EU countries have access to;

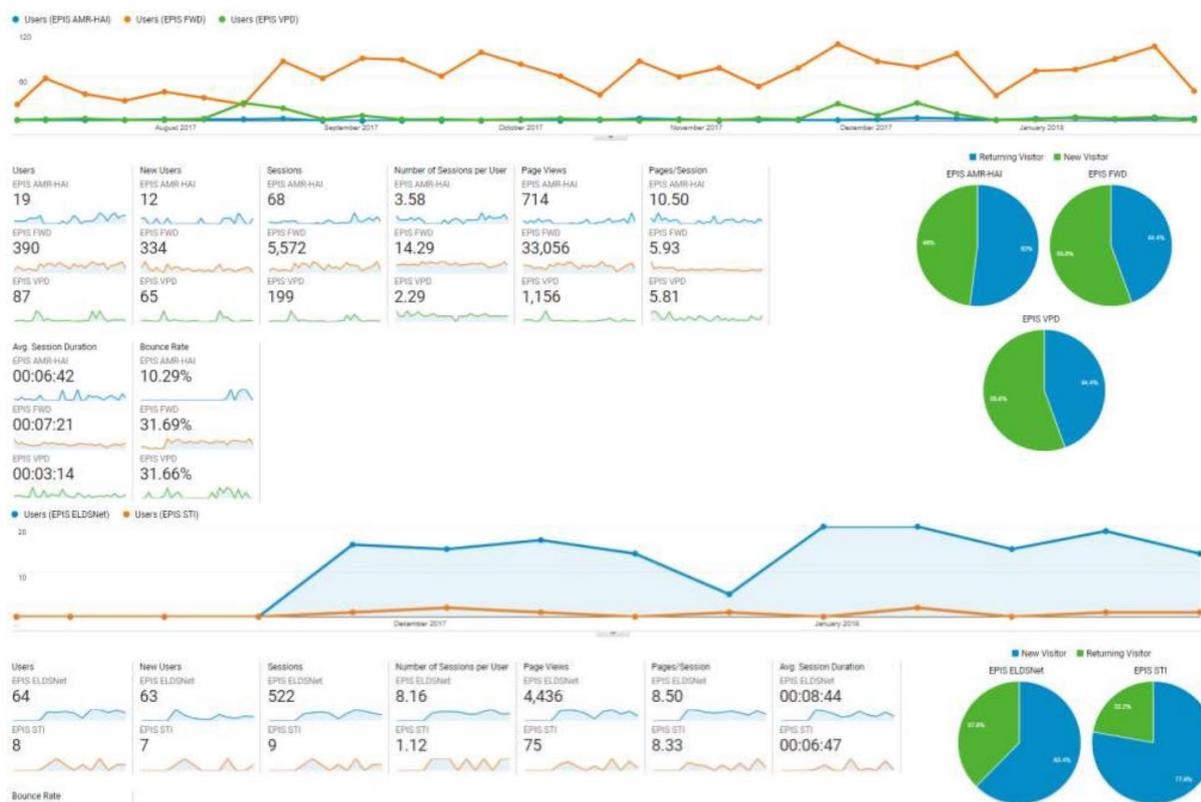
- EPIS FWD (Food- and Waterborne Diseases and Zoonoses);
- EPIS STI (Sexually Transmitted Infections);
- EPIS ELDSNet (European Legionnaires’ Disease Surveillance Network);
- EPIS VPD (Vaccine Preventable Diseases);
- EPIS AMR-HAI (Antimicrobial Resistance and Healthcare-associated Infections).

Concerning its usage, an average of 50 annual urgent inquiries were submitted via the EPIS database over the evaluation timeframe<sup>203</sup>. Nevertheless, as seen in the following table, there is variation in the number of notifications across the different platforms. As can be seen in Figure 25, there is also variance in the activity of users across the different EPIS platforms.

Table 5 Number of notifications on different EPIS platforms (2013-2017)

	2013	2014	2015	2016	2017
EPIS FWD	N/A	N/A	N/A	12	53
EPIS VPD	1	8	14	3	3
EPIS AMR-HAI	3	5	5	7	0

Figure 25 EPIS: number of users, sessions and page views<sup>204</sup>



Nevertheless, evaluation findings show that the EPIS is an effective tool for surveillance, especially concerning outbreaks, there are ample examples of the tools effectiveness in alerting Member States to outbreaks, which consequently resulted in both national and multi-country responses to these outbreak.<sup>205</sup> For instance, EPIS notifications were mentioned in 23% of all RRAs published over the reference period. In addition, consulted stakeholders were supportive of its effectiveness in supporting coordination amongst Member States and strengthening their national surveillance system, referencing examples of EPIS notifications having a positive impact on outbreak investigations both at the national<sup>206</sup> and EU level.<sup>207</sup>

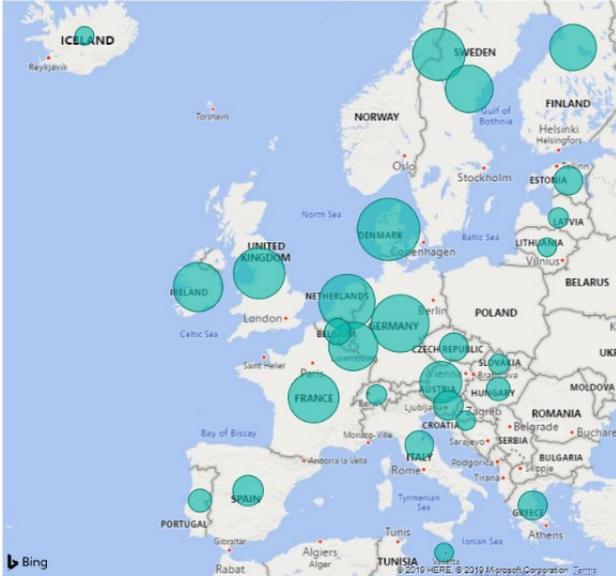
Concerning improvements to the platform, evidence suggests that the opportunity for further synergies between EFSA and the activities of the EPIS-FWD should be explored. Specifically, the EPHESUS FWD-7 evaluation suggested that the Centre consider whether the joint surveillance of outbreaks with EFSA would be beneficial in improving data quality<sup>208</sup>. This was an area also highlighted by consulted stakeholders, who considered that that the surveillance of humans, food, animals and the environment could be strengthened and time saved if the and the EPIS-FWD and the Rapid Alert System for Food and Feed (RASFF) were integrated and public health experts and food- and veterinary experts allowed access to both. Stakeholders added that this would also be seen as a positive step towards the One Health approach and strengthening the collaboration with EFSA.

Developments on the complementarity between EPIS and TESSy are ongoing under the SSR project.<sup>209</sup> Nevertheless, the platform's integration with the EU Risk Management system and the EWRS platform received the least support from consulted stakeholders for its contribution to their national epidemic intelligence activities, although a large proportion had limited knowledge on the tools' integration with other systems. There was an equal split between survey respondents who believed that the tools should be integrated to capitalize on efficiency gains from a pooling of data, and those who believed the two should stay separate in order to keep the benefits of an 'informal set-up' which was considered to encourage higher levels of information sharing.

## Management and Operational aspects

Concerning the management and operational aspects of the platforms, variation in reporting between different platforms has been identified as a factor negatively influencing the effectiveness of the tool and the quality of the data in the EPHESUS evaluation of the FWD-7.<sup>210</sup> As can be seen in Figure 27, survey respondents were least satisfied with the degree of responsiveness of partners to enquiries and reports. Interviewees and focus group participants also

Figure 26 Level of activity by EU/EEA Member States on EPIS FWD 2017-2018



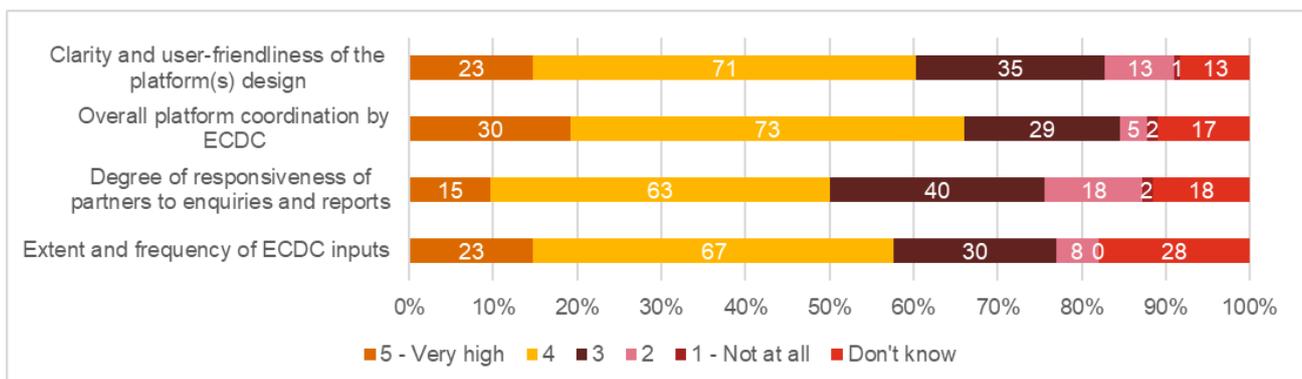
highlighted a variation of different countries' participation within the different EPIS platforms, which they indicated was correlated with their resources. It was suggested that there is a general trend towards a core set of high-resourced countries regularly contributing while others remain unresponsive.

The above feedback was supported by an analysis of urgent inquiries and the number of replies by country in the EPIS FWD platform across 2017 and 2018. 23 out of the 52 countries present on the platform submitted at least one urgent inquiry over the two years. The countries who launched the most urgent inquiries, by order of magnitude, were the United Kingdom (20), Denmark (15) and the Netherlands (13). 40 out of 52 countries active on the platform participated in one way, either via submission of an urgent inquiry or in responding to an urgent inquiry. The countries who were most active in terms of responses were Denmark (105), Germany (105) and the Netherlands (98). In addition, as can be seen in Figure 26, higher levels of activity were recorded in larger Member States and/or Member

States with higher levels of resources. 3 out of the 12 countries who did not participate at all in the platform over the two years were from EU countries; Bulgaria, Poland and Romania. Suggestions on how ECDC could address this issue were received from consulted stakeholders, and included delivering training on outbreak reporting, especially to Member States whose outbreak reporting is limited. The EPHESUS evaluation report on FWD-7 also suggested the Centre consider joint training in outbreak surveillance with EFSA to improve data quality.<sup>211</sup>

There is also variation in participation across the different EPIS platforms<sup>212</sup>, with FWD and ELDS platforms recording higher usage rates than the others. A certain degree of this variation can be explained due to factors such as the number of participating experts and the maturity of the different platforms, as well as the nature of the diseases they deal with. For instance, the higher usage of the FWD and ELDS is likely due to the systems' maturity in comparison to the other networks<sup>213</sup>, as well as the fact that they are the only two platforms to include experts from outside the EU participating, increasing their overall participant numbers. In addition, specifically given the nature of FWD diseases, the FWD network faces the most challenges in terms of rapidly changing diagnostic methods and has the most frequent demands in terms of newly identified multi-country outbreaks which benefit from the support of the EPIS platform. Nevertheless, given the above findings concerning the variation of individuals' participation, the reasons for the lower participation rates should be analysed. Aside from these aspects of participation, the management and operational aspects of EPIS received overall positive feedback from consulted stakeholders, as can be seen in the figure below.

Figure 27 Are you satisfied with the following management and operational aspects of EPIS? (n=156)



## Vaccination Strategies

Within the EU framework of activities to address vaccine hesitancy, ECDC has been tasked with increasing communication on the impact of vaccination programs; on the benefits/risks of vaccination in immunization programs<sup>214</sup>. This dissemination of information should serve as effective input into vaccination strategies at the national level. Evidence shows that the Centre has invested considerable efforts and resources into this area of activity. For an indication, the figure below displays the amount of human and financial resources dedicated to the ECDC vaccine-preventable Diseases (VPD) Programme, which provides a broad range of activities.<sup>215</sup> Furthermore, out of ECDC's seven Disease Programmes, besides the Antimicrobial Resistance and Healthcare-associated Infections (ARHAI) programme (see Figure 92), the VPD programme received the most funding throughout the evaluation period.

Figure 29 FTEs and initial budget allocations to the vaccine-preventable Diseases (VPD) Programme (2013-2018)

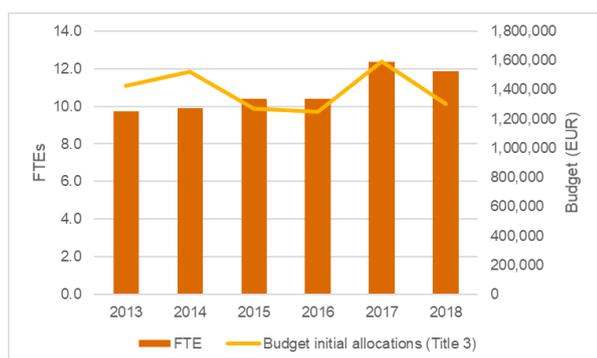
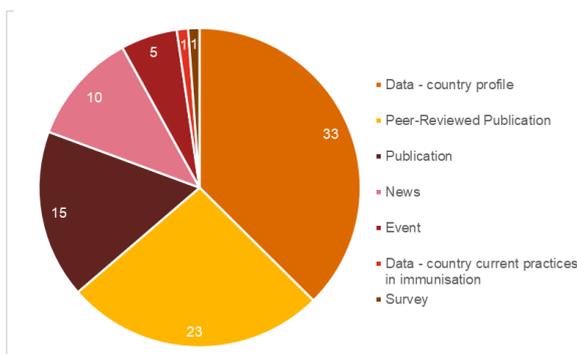


Figure 28 ECDC outputs related to vaccination/immunisation (2013 – 2017)



In line with the resources dedicated to this area, ECDC has disseminated a wealth of data and information at Community level on vaccination coverage in EU/EEA Member States, as well as information concerning vaccine effectiveness, safety and hesitancy. Figure 27 summarises the number of ECDC outputs related to the field of vaccination and immunisation produced by the Centre over the reference period. Findings throughout the report confirm that there is a high degree of support for these outputs, and that they have been used as evidence base to inform discussions at the EU level, as well as to help national stakeholders develop strategies to overcome vaccine hesitancy<sup>216</sup>.

Other relevant activities include ECDC's support to the European Immunisation Week event between 2014-2017, an event celebrated across the European Region every April to raise awareness of the importance of immunisation for people's health and well-being. The event received a high degree of support from consulted stakeholders for its contribution to raising awareness amongst the public (see SEQ 1.2).<sup>217</sup>

Secondly, ECDC has established a network dedicated to VPDs with the objectives of collecting, sharing and disseminating information on national immunisation programmes through a network of professionals and providing information useful to build up methodologies and provide guidance for improving the overall performance of the immunisation systems in the EU/EEA Member States<sup>218</sup>. Over the reference period, the network has collect a valuable load of data and to share important information on how the vaccination programmes work in Europe , and is an initiative considered to bring added value to achieving EU objectives in the area of vaccination<sup>219</sup>.

The Centre has also contributed to relevant EU initiatives on the topic of vaccination. For instance, it is leading one of the work packages within the 'Accelerated development of vaccine benefit-risk collaboration in Europe' (ADVANCE) project(funded by IMI) a five-year project paving the way for a pan-European framework for rapidly assessing and communicating the benefits and risks of vaccines. The goal of the project is to make it easier for regulators and public health authorities to make fast, more informed decisions regarding vaccination strategies, and help to maintain public confidence in immunisation<sup>220</sup>. ECDC is running the work package which focuses on assessing the implementability of solutions stemming from other parts of the project and developing a blueprint for a framework for an integrated EU level vaccine benefit-risk system.<sup>221</sup>

Another important project to which ECDC contributed heavily in the area of influenza vaccine effectiveness is the Influenza - Monitoring Vaccine Effectiveness network (I-MOVE).<sup>222</sup> The objective of the network, composed of project partners representing the different EU/EEA Member States, is to annually measure influenza vaccine effectiveness in

each of the influenza seasons, and provide timely and reliable estimates of Influenza vaccines effectiveness in Europe. The outputs of the network are intended to contribute to decisions on recommendations for the use of the influenza vaccine, allow more precise estimates of the impact of current vaccination strategies on the burden of disease to support vaccination campaigns. The number of partner institutes carrying out studies under the project grew over the reference period, from 10 in the 2012-2013 period, to 17 in the 2016-2017 period.<sup>223</sup> Taking participation rates as a proxy for the effectiveness of this initiative, the high and growing participation rates shows the interest, relevance and importance for Member States and their technical bodies.

Two other large-scale projects covering vaccine effectiveness and funded by the ECDC VPD Programme include the project PERTINENT, which aims at setting up a European hospital network to address key questions on the burden of pertussis in infants less than one year of age, as well as the vaccine effectiveness and impact of different pertussis vaccination strategies in the EU/EEA. In particular, primary objectives include estimating the burden of laboratory-confirmed pertussis in hospitalised infants aged less than one year, and estimating pertussis vaccine effectiveness against hospitalisation for laboratory confirmed pertussis in infants within the same group.<sup>224</sup> The second project is SpIDNet, the primary objective of which is to maintain and further develop a coordination infrastructure and a network of reporting sites for enhanced, population-based Invasive Pneumococcal Disease (IPD) surveillance in the EU/EEA, to detect emerging strains and serotype replacement, as well as measure the vaccine effectiveness of the pneumococcal conjugate vaccines, and evaluate the impact of pneumococcal conjugate vaccines in terms of the disease burden of vaccine and non-vaccine strains.<sup>225</sup>

ECDC has also actively contributed to the EU Joint Action on Vaccination (JAV), with a high degree of support expressed by consulted stakeholders for its involvement (for further analysis of the JAV see EQ 17).

ECDC has also produced several outputs aimed at improving the implementation of immunization information systems within the EU/EEA, in line with the 2018 Council Recommendation on strengthened cooperation against vaccine-preventable diseases<sup>226</sup>, which called for the refinement of immunisation registers and information systems to improve the monitoring of vaccination programmes. For instance, in 2017 the Centre carried out a survey to assess the level of implementation of immunization information systems in the EU/EEA<sup>227</sup> and produced a technical report on useful tools for monitoring vaccination programmes<sup>228</sup> based on the findings. They also developed a technical guidance document on designing and implementing an immunization information system.<sup>229</sup>

Finally, as highlighted under SEQ 1.2, the ECDC vaccine scheduler tool was highlighted as another ECDC output which brought added value to stakeholders in the area of vaccination. The interactive tool was launched in 2013 and shows vaccination schedules for individual EU/EEA countries and specific age groups. The tool allows for comparisons of vaccination schedules between two countries or by disease for all or a selection of countries<sup>230</sup>. After its launch, it quickly became the most accessed application on the Centre's homepage<sup>231</sup>. An average of 286 000 annual page visits were recorded between 2015 and 2017<sup>232</sup>, with a significant spike to 400 000 in 2015. The latest figures and distribution of these visits can be seen in the following figure.

Figure 30 Use of the ECDC vaccine scheduler (2013-2017)



Consulted stakeholders most frequently highlighted its added value in providing an overview of vaccine schedules across countries. This was raised by both scientific experts and policy-makers, particularly as it afforded them an up to date European level view on the subject and allowed for benchmarking against neighbours. It was suggested that this could encourage countries to increase their vaccine coverage. The tool was also considered helpful for health

professionals dealing with a patient who has moved between Member States due to the variation between vaccination schedules across countries.

**In summary, results suggest that the Centre's tools for the collection, validation and dissemination of data, including on key priority areas such as vaccination, have been effective. The European Surveillance System (TESSy) is effective in the collection, validation and dissemination of data, with evidence of improvements to the system since the Second External Evaluation of ECDC. The tool is effective in promoting harmonisation and coordination between Member States, although its added value is more concentrated in analysing long-term trends rather than identifying outbreaks. Nevertheless, a factor negatively influencing the tools' effectiveness relates to discrepancies in the reporting levels and the quality of reporting between Member States. This was identified as a factor negatively influencing the effectiveness of EU-level surveillance. Some consulted stakeholders considered that it was outside of the scope of ECDC to address this issue. Others considered that a solution to address this could be to provide ECDC with stronger mechanisms for ensuring consistent surveillance reporting. The effectiveness of the tool could also be strengthened via further involvement of Member State experts in the data analysis.**

**Concerning the EPIS system, the tool is particularly effective in alerting Member States to European outbreaks and facilitating national and multi-country responses to outbreaks. The effectiveness of the EPIS-FWD could benefit from exploring additional synergies with EFSA. Nevertheless, the effectiveness of the system is dependent on the participation of Member States and the evaluation found discrepancies in the participation of different MS, correlating with their capacities. As such, its effectiveness could be strengthened through efforts to increase participation and training initiatives focused on Member States with low reporting frequency.**

**ECDC has dedicated increasing resources to activities related to immunisation and vaccine hesitancy. The Centre disseminated a wealth of information and other outputs on vaccinations, as well as significantly contributed to relevant initiatives aimed at addressing vaccine hesitancy and vaccine effectiveness. There is evidence that this has been relevant and effective, especially for informing strategies and decision-makers both at EU and national level.**

*SEQ 4.6 To what extent has the Centre contributed to the development of effective dedicated surveillance networks and cooperation between experts and reference laboratories?*

ECDC Disease Programmes (DP) coordinate 17 operational disease networks, which consequently support several sub-networks or consortia of public health microbiology laboratories in EU Member States to enhance capabilities and strengthen capacity for pathogen detection, characterisation and surveillance of specific diseases and antimicrobial resistance. The Centre supports these laboratory subnetworks in Europe by coordinating network collaboration activities, external quality assessments (EQA), training schemes, and assessment of the accuracy or effectiveness of new microbiological methods for the detection or characterisation of pathogen(s) of importance to public health.<sup>233</sup>

There is evidence that these disease networks serve as an effective tool for surveillance of the relevant disease which they are addressing. For instance, an analysis of the RRAs produced over the evaluation period returned evidence that the networks associated to the diseases in which there were outbreaks frequently contributed to the detection and surveillance.<sup>234</sup> In addition, there is also evidence that these surveillance networks have catalysed initiatives aimed at improving the quality of surveillance in the EU. For example, during the evaluation reference period, the European Network for Hepatitis B and C Surveillance formed a Coordination Committee to review the implementation of ECDC's enhanced surveillance programme for hepatitis B and C across EU/EEA countries. The Committee has met every year in order to discuss ways of improving the programme, focusing on countries' experiences, emerging trends, and prevalence studies. Finally, multiple consulted stakeholders identified the added value of these disease-specific networks as fostering cooperation and connections between professionals, with a positive impact on EU-wide surveillance.

There is also evidence that the networks have contributed to collaboration between experts and reference laboratories. This primarily due to the network's facilitation of interactions and connections between experts and reference laboratories from across the EU/EEA and neighbouring countries. As an example, the European Reference Laboratory Network for Tuberculosis (ERLTB-Net) meetings over the evaluation period<sup>235</sup> were attended by, on average, 50 participants representing 35 different national reference laboratories across 30 different countries. In addition, an analysis of the meeting minutes show that these networks have led to initiatives such as country visits, staff exchanges to different reference laboratories as well as benefits such as the exchange of information, sharing of methodologies and approaching each other for assistance. This is also supported by a number of studies that have found the European Reference Laboratory Network for TB (ERLTB-Net) and European Reference Laboratory Network for Human Influenza

(ERLI-Net) to have been instrumental in developing collaboration between laboratories in the EU/EEA<sup>236</sup>. Finally, consulted stakeholders the added value of these connections and the collaboration in establishing EU-wide connections as well as the knowledge gain through the sharing of expertise, best practices and the standardisation of methods, reporting requirements etc.

In addition, there is evidence that ECDC has contributed to strengthening laboratory capacity and capabilities in the Member States. ECDC's laboratory support was also highlighted in the 2<sup>nd</sup> External Evaluation of ECDC, and evidence from the reference period of the current evaluation shows that the Centre has continued to effectively provide its services in this area. The EPHESUS evaluations<sup>237</sup> highlighted its laboratory support as a key output strengthening surveillance in Member States. In addition, an analysis of disease network meeting minutes show that the Centre has carried out multiple trainings involving national reference laboratories, as well as regular evaluations of technical expertise via External Quality Assessments (EQA). The EQAs, carried out by ECDC to support these networks, were frequently highlighted as an output strengthening the effectiveness of surveillance networks and connections between experts and reference laboratories by consulted stakeholders.

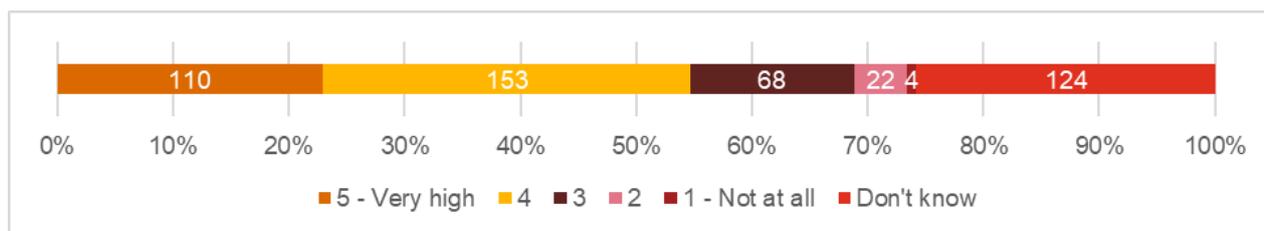
The ECDC Fellowship Programme is also a key contribution of the Centre in developing effective surveillance networks and cooperation between experts and reference laboratories as well as an effective surveillance network of public health professionals. Specifically, the structure of the programme with the field epidemiology path (EPIET) and a public health microbiology path (EUPHEM) contributes to establishing a network of epidemiologists and microbiologists (both between fellows and other participants of the Programme, e.g. supervisors, coordinators, host institutes) who speak the same language and which endures beyond the end of the programme, contributing to an effective surveillance network.

Finally, another ECDC output which was identified as having contributed to surveillance networks and collaboration between experts and reference laboratories over the reference period is the EU Laboratory Capability Monitoring (EULabCap) survey. The survey has seen a sustained response rate of 100% and 97% completeness of data reporting since it was rolled out in 2014, illustrating the commitment of the NFPs to the process. Evidence shows that the EULabCap has been successful in strengthening the monitoring of laboratory expertise across the EU, allowing for benchmarking between Member States and contributing to national decision-making processes<sup>238</sup>. Documentary evidence and consulted stakeholder feedback show that the survey has contributed to fostering within-country networks, especially between public health experts including policy-makers, epidemiologists and microbiologists. In addition, that it has strengthened the involvement of national reference laboratory experts in national outbreak investigations<sup>239</sup>. A 2016 ECDC survey on the use of the annual EULabCap country reports also found that 23/27 responding countries reported finding the tool useful for advising national authorities, and in 17 countries the EULabCap country reports were directly communicated also to decision makers or senior management. This was supported by consulted stakeholder feedback. For instance, an interviewed national policy-maker also indicated that new regulations concerning their national laboratories had been implemented as a result of this survey.

In relation to this, the EPHESUS FWD-7 evaluation and consulted stakeholders called for ECDC to establish their own EU-level reference laboratories. Arguments in favour include the need for the Centre to improve its holistic coverage of the different areas related to health surveillance and risk assessments. In addition, it was expressed by several stakeholders working in Member State reference laboratories that ECDC operated EU-level reference laboratories would facilitate their work in terms of data collection and analysis as well as harmonisation and standardisation. Nevertheless, an equal number of stakeholders believed there was no need to establish ECDC reference laboratories due to the financial implications, as well as the existence of other relevant bodies such as the European Networks of Reference Laboratories, which they deemed as sufficient.

The above findings were supported by feedback from consulted stakeholders, the majority of whom considered that the Centre had contributed to the development of effective dedicated surveillance networks and cooperation between experts and reference laboratories. As can be seen in the following figure, 55% of survey respondents considered that the Centre had achieved this to a "high" or "very high" extent, and this rises to 74% when excluding respondents who answered "don't know".

Figure 31 Please rate the extent to which you believe the Centre contributed to the development of effective cooperation between experts and reference laboratories:



In summary, a few key ECDC outputs and activities are highlighted as having contributed to the development of effective dedicated surveillance networks and cooperation between experts and reference laboratories. These include ECDC's disease and laboratory networks, the Fellowship Programme, which encompasses both a path for epidemiologists and a path for public health microbiologists, its EU LabCap survey and laboratory external quality assessments. The latter prompted discussions related to the need for establishment of EU reference laboratories.

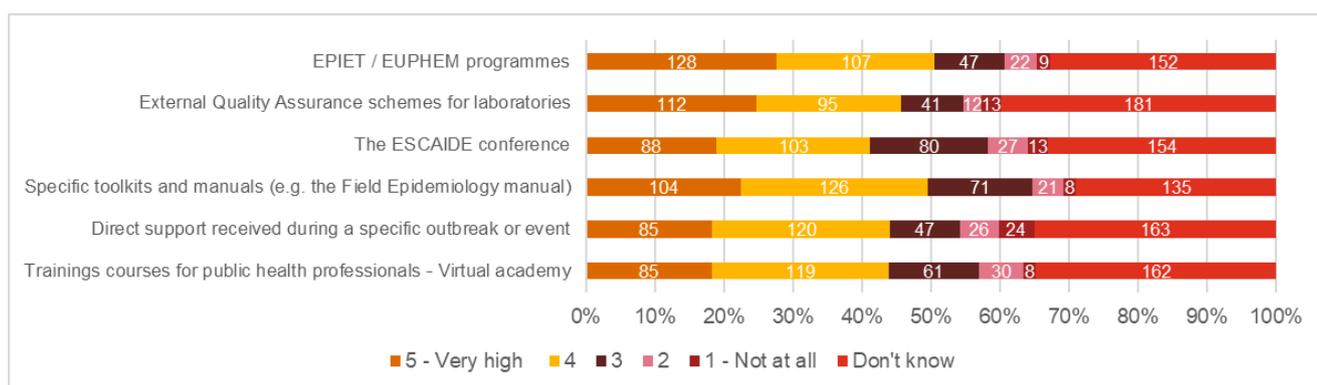
*SEQ 4.7 To what extent have the Centre's networking, training and technical assistance activities been effective in promoting the prevention and/or control of communicable diseases in the EU or at national level?*

#### Networking activities

As discussed under the previous section, ECDC has effectively contributed to the surveillance of communicable disease via its disease networks by fostering collaboration between experts and reference laboratories. In addition, that the Fellowship Programme has established a strong network of public health professionals promoting the prevention and/or control of communicable diseases. Survey responses also indicate that ECDC conferences are effective in contributing to this networking, with ECDC conferences in the top 3 most used outputs assessed in the survey and 72% of respondents reporting having already participated in ECDC conferences.

ECDC's ESCAIDE conference is particularly successful, with attendance to the conference growing from over 500 attendees in 2013 to over 600 attendees in 2017<sup>240</sup>. Furthermore, only 9% of survey respondents rated its effectiveness in promoting prevention and/or control of communicable diseases as "low" or "not at all", with open comments highlighting it as a key event in the year, providing for scientific exchange and networking within the EU. Finally, an analysis of the ESCAIDE programmes between 2015-2017 shows that the programmes of the conference addressed priority areas and key topics<sup>241</sup>. This is also supported by consulted stakeholders who reported that it helped them keep up to date with topics in the field of health prevention.

Figure 32 Please rate the extent to which you believe the following ECDC activities have been effective in promoting prevention and/or control of communicable diseases in your country of residence: (n=465)



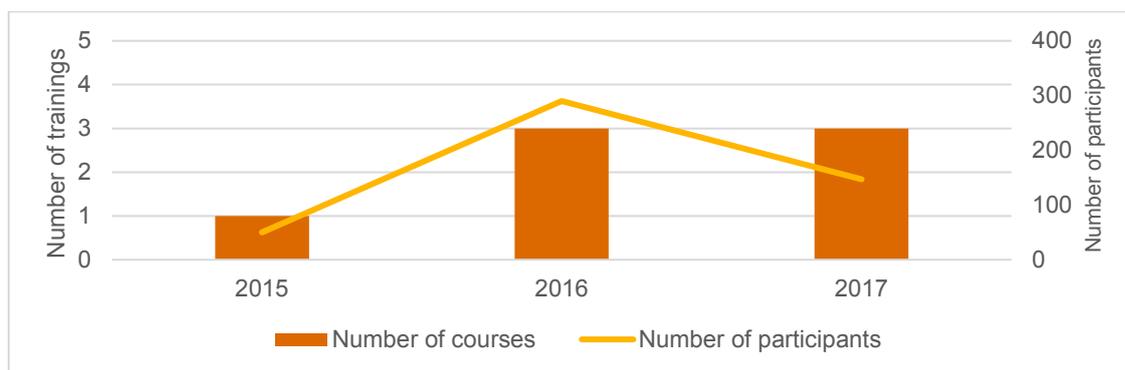
#### Training activities

ECDC's public health training activities have contributed to the prevention and/or control of current and emerging health threats, especially through their contribution to early detection and definition of measures for outbreak control. This is especially relevant for the ECDC EPIET and EUPHEM programmes. However, to avoid duplicate efforts, the following analysis is focused on ECDC training outputs not covered by other ongoing evaluations including the Fellowship Programme evaluation, EPHESES and Disease Programme evaluations.

ECDC's training initiatives outside of the Fellowship Programme are effective in promoting prevention and/or control of current and emerging health threats. For instance, the Centre launched a Virtual Academy (EVA) platform for online training which offered its first e-learning course in 2015 with 30 pilot participants and these numbers saw exponential increase in activity from its introduction in 2015, as seen in the figure below. In addition, out of 45,400 page views between April 2016 – and January 2018, 72,3% were returning visitors, pointing to the effectiveness of the courses which incites users to return.<sup>242</sup> This is supported by consulted stakeholder feedback; stakeholders who were aware of the tool rated it highly as a cost- and time-effective tool for professional training, highlighting that it helped them raise their qualifications, improve their knowledge and keep up to date. In addition, it was recognised by several survey respondents that the scope and quality of the courses was noticeably improving. ECDC summer training programmes were also highlighted by multiple survey respondents as an effective way to support the professional development of their staff and increase the capacity of their institutes.

Suggestions for improvements mostly related to improving its accessibility as well as increasing the scope of the courses by, e.g. opening it for public access, investing in additional languages and courses.

Figure 33 Number of EVA trainings and participants (2015-2017)



Finally, there is evidence of increasing demand for additional and more accessible/flexible training courses for public health professionals<sup>243</sup>. The implementation of the ECDC **Continuous Professional Development Programme** (CPDP) in 2017 indicates that ECDC is effectively responding to this demand. The programme is targeted at mid-career and senior public health professionals and consists of the ECDC Summer School, a Senior Exchange Initiative, short courses, e-learning opportunities, and training courses developed in collaboration with ECDC's Disease Programmes. In its first year, the programme trained 397 external participants and 12 senior exchange visits, highlighting its relevance.<sup>244</sup>

The high demand for these other training tools offered by ECDC link to a finding of the External Evaluation of the ECDC Fellowship Programme. Specifically, the External Evaluation of the Fellowship Programme found that some Member States' needs cannot suitably be addressed by the Programme due to, e.g. a public health workforce demographic, which makes them less suitable for a training programme primarily aimed at mid-career professionals, and are therefore not participating in the Programme. Consequently, it was recommended that the needs assessment activities of the Training section should be strengthened and used to robustly identify the countries which are in need of increased capacity in the areas covered by the Programme but which cannot benefit from it due to resource or capacity constraints. In addition, that in the event that the needs assessment indicates that the needs of non-participating Member States cannot be addressed through the Programme, alternative means of addressing continuous professional development needs should be provided by ECDC. The high demand for these alternative training initiatives highlighted in the above analysis (i.e. the EVA and CPDP) highlights that they constitute a relevant and effective alternative for training to the Fellowship Programme and could be further capitalised on.

### Technical Assistance

Under this section, we analyse the effectiveness of ECDC's technical documents and direct assistance in contributing to the prevention and/or control of communicable diseases outputs (aside from the laboratory support discussed under SEQ 4.6). Evidence shows that ECDC toolkits and manuals are an effective tool promoting the prevention and/or control of communicable diseases. The quality and utility of ECDC of the technical documents are highlighted in ECDC AF meetings as well as the EPHEUS FWD evaluation and 2014 ECDC stakeholder survey<sup>245</sup>. A recommendation of the Council of the European Union also suggested increasing the use of ECDC communication toolkits in the context of vaccination and the risks posed by communicable diseases<sup>246</sup>. Finally, ECDC's Antibiotic Awareness Day toolkit received the European Health Award, at the 2016 European Health Forum Gastein<sup>247</sup>. These findings were supported

by consulted stakeholder feedback under the current evaluation, which emphasised the effectiveness and utility of ECDC toolkits. The most commonly cited use of these toolkits related to training, public health investigations (including preparedness and risk assessment activities) as well as tools for policy-making. Several survey respondents also indicated using the training material for professional development purposes and/or developing training material for junior epidemiologists and students. Suggestions for improvements included the translation of the toolkits in order to facilitate their use by more stakeholders. In addition, it was suggested that ECDC should further promote the material within relevant networks to increase awareness. The latter finding was supported by participants of the evaluation focus groups.<sup>248</sup>

Another form of ECDC technical assistance promoting the prevention and/or control of communicable diseases at national level is country visits and technical meetings. Following an invitation by Member States, an ECDC team conducts visits and meetings to discuss the issue at hand, with the objective of providing an evidence-based assessment of the situation. Over the evaluation period, published 10 mission reports, detailing country visits by the ECDC team to 9 different countries including Angola, Belgium, Bulgaria, Cyprus, Italy, Latvia, Luxembourg, Portugal and Romania. The visits addressed the topic of Ebola preparedness, antimicrobial resistance, healthcare-associated infections and yellow fever.

There is evidence that these direct and technical interactions with ECDC have brought added value at the national level and contributed to promoting the prevention and control of communicable diseases. Their effectiveness was highlighted during Management Board meetings from the reference period, in the feedback given by members representing countries who had experienced country visits.<sup>249</sup> They noted that the visits had strengthened the collaboration between their Member State and the Centre and had been useful in increasing the mutual knowledge and bringing ECDC closer to the “field”. It was also highlighted by a representative from Malta in a Management Board meeting that the proceedings of a technical meeting with ECDC were translated into a technical Malta Declaration on how to fast-track actions for stopping HIV.<sup>250</sup> Finally, documentary evidence shows that the analysis and conclusions of a joint country visit to Latvia with the EMCDA were used by Latvia as an input to their medium-term national plan on HIV.<sup>251</sup>

The above findings were supported by positive feedback from the consulted stakeholders representing the countries who had received country visits during the evaluation timeframe. 23 open comments received in the survey referenced the country visits as an effective ECDC output, especially in terms of its effectiveness in increasing capacity. Feedback from consulted stakeholders also confirmed the added value of the country visits in increasing capacity and strengthening the collaboration between ECDC and Member States. However, an important factor which emerged from the latter is related to the contribution of the country visits in raising awareness and influencing national policy-makers. Specifically, multiple consulted public health experts from across various countries confirmed that the country visits had been effective in raising awareness amongst national policy-makers which had given impetus for changes in national policy which would not have otherwise occurred. Although it falls outside the scope of the evaluation, an example of this relates ECDC’s visit to Lithuania in 2012, which resulted in HIV being placed as a priority on the national political agenda.

The point of ECDC’s effectiveness and added value in raising awareness and influencing the importance placed on relevant public health issues amongst national policy stakeholders was also a point raised in an ECDC Advisory Forum meeting in the context of barriers to the implementation of e-health systems.<sup>252</sup>

**In conclusion, evidence shows that disease networks, the Fellowship Programme, and ECDC’s ESCAIDE conference have effectively contributed to the networking of public health professionals, which has contributed to the surveillance of communicable diseases. ECDC training activities other than Fellowship Programme, including the Virtual Academy (EVA) platform and the Continuous Professional Development Programme (CPDP), have recorded high levels of demand from stakeholders and are found to be effective tools for professional training, promoting the prevention and/or control of communicable diseases at national level by helping public health professionals raise their qualifications, improve their knowledge and keep up to date. These findings, in combination with findings from the External Evaluation of the Fellowship Programme indicate that the effectiveness of the Centre’s training needs could be improved by more robustly assessing the extent to which the programme is suitable for addressing Member States’ needs, and developing alternative training solutions to address needs where appropriate. There is a strong appreciation for the effectiveness of ECDC’s technical assistance activities in promoting the prevention and/or control of communicable diseases. The Centre’s toolkits are used both at national and EU-level, although their effectiveness could be increased via further promotion within relevant networks to increase awareness. ECDC country visits were highlighted as a valuable technical assistance activity, effective in building capacity and strengthening the collaboration Member States and the Centre. The visits were also found to bring added value**

**to public health experts by raising awareness of relevant issues with national policy-makers. There is evidence that the outputs have been used as input in national agenda setting and strategies.**

*SEQ 4.8 To what extent has the Centre fulfilled its mandate to communicate the results of its work in a rapid, objective, reliable and easy accessible way to all stakeholders and contributed to raising awareness among all of them?*

The ECDC communication strategy for the evaluation timeframe is set out in its SMAP 2014 – 2020 and the ECDC Communication Strategy 2020, adopted in 2016.<sup>253</sup> The main objective of the Centre in this area is to be “a main source of authoritative and independent scientific information within the areas of its mandate, and to be a valued partner to Member States and the Commission in relation to outbreak/crisis communication and support and coordination”. In addition, as a result of feedback from the 2014 and 2015 stakeholder surveys<sup>254</sup>, the second External Evaluation of ECDC, as well as ECDC’s increasing support to risk and crisis communication capacities in Member States, the latest 2020 strategy also emphasises the need for ECDC to provide;

- more analysis and interpretation of surveillance data and produce information and knowledge that the Commission and Member States can use to inform policy and practice
- ensure dissemination of its products and more proactive communication and improved searchability and navigation on the website.

The main stakeholders of its outputs include health professionals, policymakers, health communicators and the media. The general population is not considered a direct target audience for ECDC in its communication strategy but rather that it should support national authorities and other stakeholders in an effort to reach their citizens (e.g. through initiatives like Antimicrobial Awareness Day).

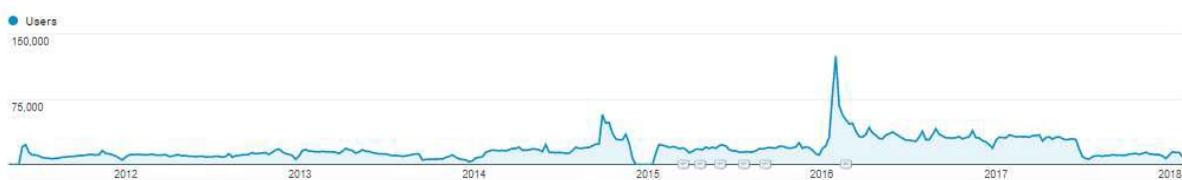
As discussed under SEQ 4.4, the Centre has successfully disseminated information in a timely manner over the reference period. Firstly, consulted stakeholders were supportive of the timeliness of the Centre’s outputs. As can be seen in Figure 19, 73% of survey respondents rated the timeliness of the information provided by the Centre as “high” or “very high”. Over the evaluation period, the Centre has also successfully met and exceeded the indicators outlined in its strategic multi-annual programme (2014-2020) for 80% of Rapid Risk Assessments and requested items for scientific advice delivered within the agreed deadline, with evidence of improvements over the evaluation period. 82.5% of RRAs were delivered within the agreed timeline in 2015 and 100% in 2017 (see SEQ 4.2). Similarly, the proportion of external requests for scientific outputs (other than Rapid Risk Assessments) delivered within the agreed deadline rose from 83% in 2014 to 100% in 2017.<sup>255</sup>

Similarly, the evidence suggests that the Centre has also been successful in communicating information in an objective and reliable way. This is evidenced by the high support from stakeholders for the quality of its information outputs, as discussed under SEQ 4.4 and shown in Figure 19, with 92% of survey respondents rating it as “high” or “very high”. In addition, there is evidence of several of its outputs’ being used both at national and EU-level. Specifically as regards the use of ECDC-produced communication toolkits to inform communication measures at country level, the surveyed stakeholders reported that this was the case in all EU countries for the three toolkits sampled:

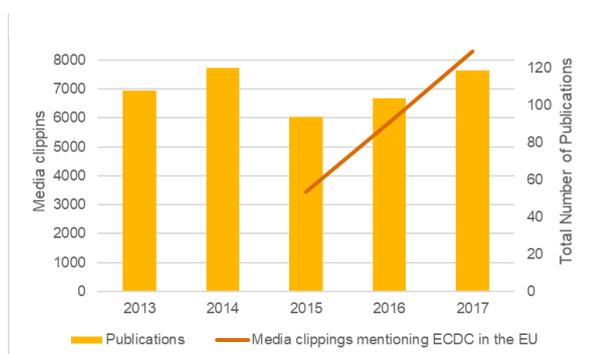
- Toolkit on tick-borne diseases and preventive measures - reported to have been used in 27 EU/EEA Member States; see examples of outputs in France<sup>256</sup> and the Czech Republic<sup>257</sup>;
- Toolkit on immunisation - reported to have been used in 29 EU/EEA Member States, see examples of outputs in the Czech Republic,<sup>258</sup> Romania<sup>259</sup> and Italy<sup>260</sup>;
- Toolkit on antibiotic use – reported to have been used in all 31 EU/EEA Member States, see examples of outputs in Romania<sup>261</sup> and Poland<sup>262</sup>.

Evidence of the effectiveness of ECDC’s communication can also be found in the increasing use of the Centre’s communication channels and products over the evaluation period<sup>263</sup>, in line with the objectives of its 2020 Communication Strategy. In each year covered by the evaluation timeframe, ECDC has generally exceeded its Key Performance Indicators (KPI) related to web and social media metrics, as defined in its 2016-2020 Communication Strategy.<sup>264</sup> For example, the number of website sessions illustrated in the following figure shows a general increase, despite fluctuations over the years with a significant peak in 2016, which was largely due to the heightened interest in Zika.<sup>265</sup> The exception to this was the drop in the number of website sessions recorded for 2017 (1 281 596) compared to 2016 (2 284 454), largely as a result of new EU data regulations.<sup>266</sup>

Figure ECDC web portal: number of users, sessions and page views 2011-2018

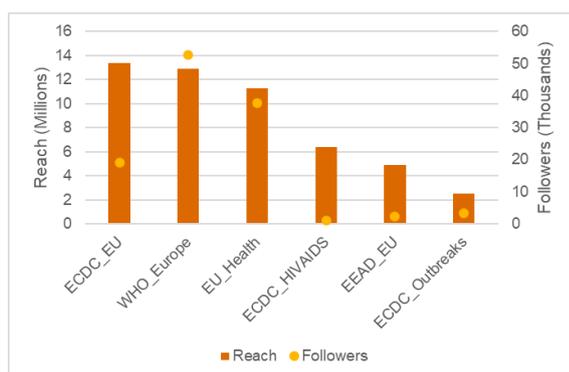


Source: ECDC ICT Report 2018



Source: ECDC Annual reports of the Director 2013-2017; ECDC social media yearly reports 2015-2017

Figure 34 Twitter accounts Reach and Followers First Semester 2017



Source: ECDC social media yearly report 2017

Concerning its outputs, the total number of ECDC publications fluctuated over the evaluation period, with a slight dip in the number of outputs in 2014 and 2015. In parallel, the media coverage of the Centre’s publications and outputs increased over the period of the evaluation. In addition, as can be seen in the figure below, the number of media clippings mentioning the Centre in online and print publications also increased by 59% between 2015 and 2017. The vast majority of the traditional media publications in 2017 mentioned the Centre via information provided in its epidemiological reports, Rapid Risk Assessments, and surveillance reports and the most visible topics were AMR, HIV/AIDS and vaccines.

This has been accompanied by higher levels of awareness, evidenced by the increased impact factor of the Centre’s Scientific Advice activities (see SEQ 20.1), as well as its support on social media over the evaluation timeframe. Concerning the latter, the number of subscribers to the ECDC corporate twitter account grew by approximately 73% over the evaluation timeframe and subscribers to the ECDC outbreaks Twitter account grew by approximately 80% from 700 within a few months of its introduction in 2014 to 3 659 in 2017. The number of subscribers to the ECDC publications newsletter also saw an increase from 2 146 in 2014 to 3 312 in 2017. Similarly, the ECDC communication channels respondents reported using most on a daily or weekly basis were the website (53%), the newsletter (21%) and Twitter (11%). This increase in visibility and media impact suggests that the Centre has successfully communicated in a rapid, objective, reliable and easily accessible way, supported by consulted stakeholder feedback as well as the assessments of the quality and timeliness of its outputs by survey respondents under SEQ 4.4.

Finally, as shown in Figure 34, a comparison with other actors in the field of infectious diseases, ECDC’s corporate account recorded a higher reach score than WHO Europe or DG SANTE’s accounts, despite a lower number of followers, which points to the potential for the Centre to further its impact.

The analysis of the awareness of different actors based on consulted stakeholder feedback show a similar pattern to the findings under SEQ 1.3 concerning the relevance of ECDC’s outputs to different actors. Specifically, feedback from consulted stakeholders indicates that there is a high level of awareness and understanding of ECDC’s outputs and that the Centre’s communication activities towards **national policy makers** is effective. The highest support for the effectiveness of the Centre’s communication activities amongst national policy makers was expressed by survey respondents who identified as “risk manager/involved in decision-making process”, “policy maker” and “public health expert”

In general, there was lower support concerning **regional policy-makers**. The least support for the effectiveness of ECDC’s communication activities amongst this stakeholder group was recorded amongst survey respondents representing ECDC (17% “high” or “very high”), public health institutes (19%) and regional/decentralised governments (33%). However, an analysis of survey open comments and feedback from interviewed stakeholders show that the majority of consulted stakeholders did not consider the need to increase communication to this group of stakeholders, as they considered it rather the responsibility of national policy makers or national public health institutes to disseminate information to this stakeholder group. This was equally a point supported by focus group participants.

Public health experts and the scientific community were the other groups of stakeholders with the most highly rated awareness and understanding of ECDC activities, and the Centre’s communication activities towards this stakeholder group was rated highly. Survey respondents who identified as clinicians, public health experts and researchers were the groups which rated the effectiveness Centre’s communication activities in this area as “high” or “very high” the most. Eurosurveillance and ECDC publications were frequently mentioned as effective mediums for communicating with this stakeholder group. Nevertheless, focus group participants felt that the Centre should further increase its dissemination activities to this stakeholder group, and especially public health professional networks in order to increase the uptake of its outputs.

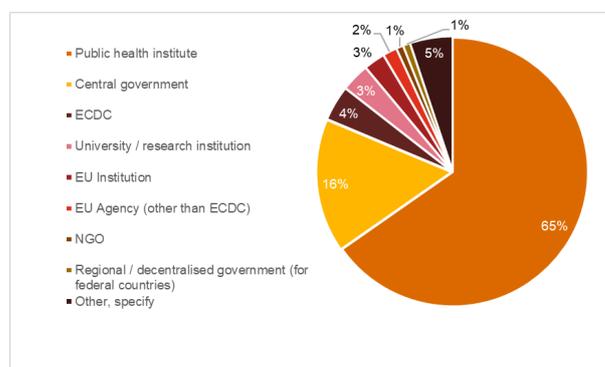
Media and journalists and the general public received the lowest ratings concerning their awareness and understanding of ECDC outputs, as well as the effectiveness of the Centre’s communication activities towards these stakeholder groups. Specifically, 17% and 8% of survey respondents considered that the Centre’s communication activities towards the media/journalists and the general public were effective to a “high” or “very high” extent, respectively. The results concerning the general public are in line with the Centre’s mandate and communication strategy, which rather place the Centre’s role in supporting Member States’ communication to their national populations. In contrast, concerning the media and health communicators, these stakeholder groups are highlighted as one of the Centre’s key target audiences in its communication strategy. ECDC’s communication strategy sets the objective to increase the reach of its activities and outputs in the media in the EU, which the analysis above and under SEQ 11.3 shows has been considerably successful. Nevertheless, feedback from consulted stakeholders, including individuals in ECDC competent coordinating body roles, AF members and health journalists, suggests that there is room to improve the Centre’s collaboration with health communicators to achieve its objectives. In addition, out of the 13 survey respondents in communicator roles, none rated the understanding, awareness of ECDC outputs or the effectiveness of the Centre’s communication activities towards the media and journalists as “high” or “very high”. Open survey comments and feedback in interviews showed a majority perception that there is currently little direct interaction between ECDC and health communicators, with the majority of communicators obtaining their information through national institutions. Suggestions on how to address this included improving direct contact between media and journalists with ECDC through, e.g. interviews, as well as ensuring their participation. Finally, and related to the Centre’s obligation to disseminate data (SEQ 4.5), it was suggested by multiple consulted stakeholders, including health communicators that it would be of added value for the Centre to coordinate annual workshops for health communication experts, journalists and opinion leaders to discuss key priority areas, e.g. vaccination strategies.

**In summary, evidence shows that ECDC has effectively communicated the results of its work in a rapid, objective, reliable and easy accessible way to all stakeholders. The Centre has successfully surpassed its performance indicators for the timely delivery of its scientific outputs, with evidence of improvements over the evaluation period and findings throughout the evaluation evidence the high quality of the Centre’s work. In addition, the Centre has seen a significant increase in the visibility of its outputs both within the traditional media sources and social media over the reference period. There is, nevertheless, scope for awareness to be further raised amongst public health professionals and with respect to the media across Europe.**

**SEQ 4.9 To what extent has the Centre effectively provided its services to respond to ad hoc requests from the European Parliament, the EU Council, the Commission or Member States?**

The provision of scientific advice at the request of the Commission, Member States and the EP is a key task of ECDC, as assigned to it by its Founding Regulation<sup>267</sup>. Over the evaluation period, the number of formal external requests (ad hoc and planned) for scientific advice submitted to the Centre increased from a total of 25 in 2014 and 59 in 2017, constituting an increase of 58%. The majority of ad-hoc requests received during the evaluation period originated from the European Parliament.<sup>268</sup> 2017 saw an overall increase in the number of requests received and saw a wider variety of requesting actors. The main groups of survey respondents who reported having previously submitted ad hoc requests to the Centre were representatives of central government and PHI representatives, as seen in Figure 35.

*Figure 35 Have you ever requested ad-hoc advice from ECDC? ‘Yes’ respondents by stakeholder type (n = 118)*



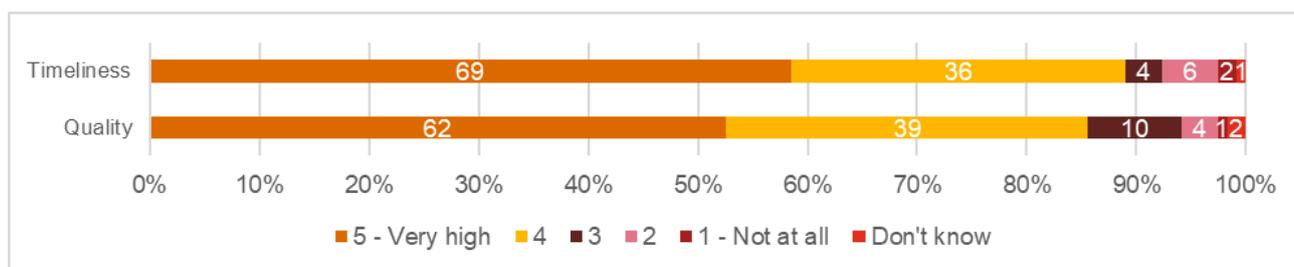
Despite the 58% increase in the number of requests to ECDC between 2014 and 2017, evidence shows that the Centre continued to respond to these requests in a timely manner and with high quality. Over the evaluation period, it

consistently outperformed its KPI of 80% of external requests answered within the agreed deadline. Furthermore, the proportion of external requests answered within the agreed deadline rose from 83% in 2015 to 100% in 2017, despite the large increase in the number of submitted requests that year.<sup>269</sup> An assessment of a random sample of 10 requests received by ECDC between 2013-2017, and their corresponding responses also evidenced the high quality of the Centre’s advice. The majority of requests in the sample related to outbreaks. The Centre’s responses contained detailed contextual information, information on relevant legal aspects, as well as links to other relevant information (e.g. ECDC and WHO technical documents, academic articles etc.).

The quality and timeliness of the Centre’s responses was also supported by overwhelmingly positive feedback from consulted stakeholders. As can be seen in Figure 36 below, a total of 89% of survey respondents rated the timeliness of the Centre’s responses to requests as “high” or “very high” and 86% concerning the quality of the responses. In addition, multiple consulted stakeholders (16 out of 29 open comments received in the survey) were able to offer examples of when the Centre had provided timely advice to stakeholders. For instance:

- A stakeholder indicated that ECDC experts had reviewed and delivered timely advice of high quality to expert reviewers on proposals drafted in preparation of the Health Programme Joint Actions;
- Another example provided was the ECDC document ‘Latent TB infection in people living with HIV - guideline for diagnosis and treatment in Latvia’;
- Another respondent from France cited the ECDC advice they received on TB concerning LTBI screening practices and reporting to ECDC from EU countries. Specifically, that they found the information useful to inform another Working Group of the High Council for Public Health.

Figure 36 Please rate the timeliness and quality of the Centre’s response to ad hoc requests. (n=118)



**In conclusion, the number of external, ad-hoc requests received by ECDC on an annual basis more than doubled over the evaluation period. In parallel, the Centre has improved the timeliness of its responses to formal requests at the same time as the workload related to this activity has increased. The quality and timeliness of the Centre’s responses to ad-hoc requests was also positively assessed.**

#### SEQ 4.10 To what extent has the Centre ensured scientific excellence?

ECDC is committed to ensuring scientific excellence in its work, with the aim to firmly establish its reputation for scientific excellence and leadership among its partners in public health.<sup>270</sup> The Centre measures the scientific excellence of its work based on its independence, quality and relevance.<sup>271</sup> Based on these criteria, findings throughout the evaluation support the scientific excellence of the Centre. For instance, as can be seen in Table 4, there is a high degree of satisfaction amongst ECDC’s stakeholders concerning the independence of judgment of its Rapid Risk Assessment outputs. Secondly, there is evidence supporting the high quality of the Centre’s outputs with 90% of surveyed respondents rating the quality of the information produced by ECDC as “high” or “very high” (see Figure 19). In addition, under SEQ 4.7 and SEQ 4.9, ECDC’s technical documents and the scientific advice issued in response to ad hoc requests was highlighted as of high scientific quality (see also analysis under SEQ 4.4 and SEQ 4.2 on Rapid Risk Assessments and Daily Round Table reports). Other evidence from the reference period can be found in the ECDC annual stakeholder surveys<sup>272</sup> in which Member States’ representatives reported an average of 86% satisfaction with the usefulness of the scientific advice provided by ECDC<sup>273</sup>, scoring higher than any other output included in the survey. Finally, the analysis under Relevance confirms that the Centre has managed to provide outputs that reflect areas of interest and need for its stakeholders (see EQ 1 and EQ 2).

In addition, concerning the independence of its work, the Centre’s Founding Regulation<sup>274</sup> states that “*the confidence of the Community institutions, the general public and interested parties in ECDC is essential. For this reason, it is vital to ensure its independence, high scientific quality, transparency and efficiency*”. To ensure the independence of its work, in 2013 the Centre implemented an Independence Policy applying to the Centre’s Senior Management Team, members and alternates of the Management Board, the Advisory Forum, ad hoc Panels and external experts. The

policy was implemented with the objective to effectively and proportionally ensure transparency in its activities, as well as identify potential and existing conflicts of interest.<sup>275</sup> The policy was revised in 2016 on the advice of the European Commission's DG for Human Resources, with evidence of marked improvements.<sup>276</sup> Firstly, the policy was split to apply to external experts and members of staff, and an Internal Procedure for the implementation of the policy developed, aimed at improving transparency, compliance and securing the principles of good scientific practice.<sup>277</sup> In addition, the Centre invested in IT improvements in the form of an electronic system for the submission of Declarations of Interest (DoI) was deployed in order to minimise the amount of errors in the submitted documents, facilitate its implementation and increase the compliance rate.<sup>278</sup> As can be seen in the following table, the proportion of DoIs<sup>279</sup> filled in and submitted by the different stakeholder groups' suggests that these modifications have successfully facilitated the implementation of the policy and increased compliance. High levels of compliance recorded in 2017 across all stakeholder groups, despite an increase in the total number of overall DoIs submitted by each group.<sup>280</sup>

Figure 37 Proportion and number of Declarations of Interest filled in by ECDC Management Board members, Advisory Forum members, and external experts (2013-2017)

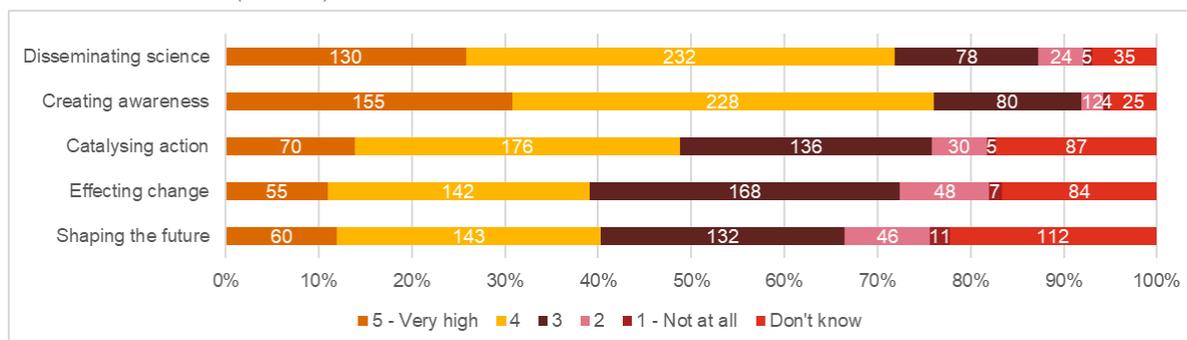
	2013	2014	2015	2016	2017
MB members	93%	93%	88%	84%	91%
AF members	96%	86,4%	89%	81%	92%
External experts	no data	73%	70%	80,4%	98%
External experts for RRAs	no data	54%	81%	100%	97%

As a further analysis, we assess the scientific excellence of ECDC's outputs against the US CDC-developed framework for assessing scientific impact beyond citations<sup>281</sup>. The framework consists of the following criteria;

- Disseminating science
- Creating awareness
- Catalysing action
- Effecting change
- Shaping the future.

As can be seen in the following figure, surveyed stakeholders were asked to assess the extent to which they considered ECDC's activities and outputs to have achieved each of these criteria.

Figure 38 To what extent do you believe that ECDC activities and their outputs have achieved the following indicators of scientific excellence?(n = 504)



Evidence from throughout the evaluation, as well as consulted stakeholder feedback indicates that the Centre has been effective concerning the dissemination of science. As discussed under SEQ 4.8 and SEQ 11.3, ECDC saw an increasing usage of its Centre's communication channels and products over the evaluation period at the same times as the impact factor of the Centre's Scientific Advice activities increased (see SEQ 20.1). Supporting this, as can be seen in the figure above, ECDC's activities and outputs were considered successful in disseminating science to a "high" or "very high" extent by 72% of surveyed respondents. The most frequently mentioned ECDC outputs cited as contributing to this in the 43 comments received under this criterion were; Eurosurveillance (15), RRAs (6), Awareness raising events (especially Antibiotic Awareness Day and World Tuberculosis Day) (6) and the ESCAIDE Conference (4).

In line with this, there is evidence that ECDC has also been effective in creating awareness around the relevant topics in which it works. For instance, as illustrated by the analysis under the SEQ 11.3, the Centre has brought added value to the EU by raising awareness in priority areas such as antimicrobial resistance and vaccine hesitancy, especially as a result of awareness raising activities such as the European Antibiotic Awareness Day. In addition, the analyses under

Relevance and SEQ 4.8 indicate that the Centre's communication activities are particularly effective towards national policy makers and public health experts, and there is a high degree of awareness and understanding of ECDC's outputs amongst these stakeholder groups. This is supported by survey respondent feedback as shown in the figure above, in which 76% of respondents rated the extent to which ECDC had been successful in creating awareness as "high" or "very high".

Concerning the indicators on catalysing action, effecting change and shaping the future, respondents were less supportive. Just under half of surveyed respondents (49%) considered that ECDC had catalysed action, and only 39% considered it had effected change to "high or "very high" extent. An analysis of survey open comments indicated that this was primarily as a result of respondents' understanding on the Centre's mandate. Specifically, multiple respondents suggested that catalysing action and effecting change remained under the responsibility of national-level actors. Nevertheless, it was noted that ECDC could be considered to have contributed to both of these at the national level via, for instance, its Antimicrobial Awareness Day event and by providing evidence-based guidance to inform national decision-making. This is supported by findings throughout the evaluation, which show that ECDC's outputs have successfully been used as input into decision-making processes both at the EU and national level (see SEQ 1.3, SEQ 11.6 and Appendix C). Secondly, the analysis under SEQ 11.3 confirm that ECDC's support to national campaigns across Europe for European Antimicrobial Awareness Day were key and are considered to have contributed to increased awareness around the topic of antimicrobial resistance.

According to the US CDC's definition, shaping the future can consist of the implementation of new hypotheses or strategies, implementation of programs/initiatives, or quality improvements. Although lower support for this was recorded amongst survey respondents (40% rating it as "high" or "very high"), evidence from the evaluation timeframe indicates that the Centre's work has been effective in shaping the future based on the given definition. For instance, as discussed SEQ 16.4, ECDC has successfully supported Member States in translating Whole Genome Sequencing into their work and into public health benefits over the evaluation period. ECDC is considered to have provided leadership for Member States in this area, and to have consequently impacted the integration of WGS on an EU level.

Finally, all of the above criteria are present within ECDC's IRIS tool, used for the prioritisation and deprioritisation of the Centre's work, thereby ensuring that ECDC's work is effectively guided towards topics which will safeguard its scientific excellence (for further analysis of the IRIS tool, see SEQ 4.13)

**In summary, there is evidence throughout the evaluation that ECDC has ensured scientific excellence in its outputs. In addition, this has been strengthened over the evaluation period by the implementation and improvement of an independence policy. Specifically, findings throughout the evaluation support the independence, quality and relevance of the Centre's work. In addition, the evaluation carried out a positive assessment of the Centre's work against indicators developed by the US CDC framework for assessing scientific impact beyond citations.**

*SEQ 4.11 To what extent has the Centre used the expertise available to ECDC from the Member States and in existing dedicated surveillance networks to deliver relevant and high quality outputs such as scientific advice and Rapid Risk Assessments for the different stakeholders*

In connection with the analysis in the preceding section, ECDC is required at times to draw on external expertise to fulfil its mandate and deliver its work programme. Specifically, Article 6 of the Centre's Founding Regulation states that the Centre shall 'seek to maintain scientific excellence at all times through the best expertise available'<sup>282</sup>. As such, ECDC has a registry open to application for all experts with relevant expertise and which the Centre draws on to form scientific groups to assist them in developing and reviewing risk assessments, scientific guidance and other scientific opinions, and carrying out scientific and technical consultations.

The selection of experts for RRAs was raised during a discussion at an MB meeting in June 2018, where concerns were raised regarding the fact that the same experts were often used and that the involvement of Member State experts from countries concerned by the event may introduce a certain bias into the assessment.<sup>283</sup> During the same meeting, the process for expert selection was clarified and discussed between ECDC staff and the MB members. It was clarified that for events within the EU, the Centre relies mostly on lists of NFPs or experts indicated by the NFPs and for external events, the experts are mainly identified by the Disease Programme networks or via WHO Europe. In addition, ECDC emphasised that the RRAs are primarily an ECDC product which external experts are requested to review where necessary and that their involvement is necessary in order for ECDC to receive necessary facts about the specific event at hand. Given the necessary involvement of national actors, as well as to promote transparency and clarity for the relevant national actors, ECDC suggested that an efficient route to address concerns around this issue would be to promote discussion between the relevant actors at national level.<sup>284</sup> This is in line with the analysis under SEQ 22.4,

which concludes that there would be added value in further promoting collaboration amongst national competent coordinating body (CCB) actors interactions at the national level.

To assess the Centre's use of external expertise, we performed an analysis of a random sample of 10 RRAs<sup>285</sup>. Across the sample, an average of 5 external experts were consulted, ranging from no external experts consulted to 17. Only one external expert was consulted in two different RRAs. Concerning their geographical distribution, 50% of the experts were from Germany and Italy. Finally, 60% worked in national PHI and 21% were from EFSA. This reflects the above concerning the concentration of external experts in terms of stakeholder type and geographical distribution, but does not support that the same experts are frequently used across RRAs.

In relation to consulted stakeholder feedback, concerns were also raised in relation to the selection of external experts for the development of RRAs, but of a different nature. Specifically, multiple interviewees and stakeholders consulted during country visits and focus groups highlighted cases in which the Centre had not notified the National Coordinator when an expert from a Competent Body was working with ECDC on a RRA, as required by the terms of reference for the CCB structure and interactions.<sup>286</sup> Consulted stakeholders highlighted this as a particularly important point when ECDC seeks input from external experts who are involved in dealing with the issue in the affected country or countries, as they are acting as national representatives. As such, it was suggested by multiple National Coordinators that it was important for the National Coordinators to have an overview of the individuals involved in their production, as it affords them possibility to recommend alternative experts where deemed relevant. In addition, it was highlighted that it was an important mechanism for affording National Coordinators an overview of the national resources being allocated to ECDC tasks and that potential benefits could be derived from their being able to recommend a broader range and more relevant actors due to their local knowledge.

The evaluation found one example of a published RRA which was not endorsed by national experts.<sup>287</sup> Nevertheless, this was as a result of a lack of involvement of national or local experts in the development of the RRA and its recommendations, despite the fact that the RRA addressed a country-specific outbreak. Although there was a consensus amongst consulted stakeholders that the involvement of national and/or local in the development of RRAs are not always required, it was highlighted that when an RRA is developed on a situation which is country specific, the involvement of experts from that country is necessary in order to provide contextual knowledge, as defined in the ECDC operational tool on Rapid Risk Assessment methodology.<sup>288</sup> That being said, an analysis of a random sample of 10 RRAs addressing country-specific outbreaks did not return any other examples in which national and/or local experts were not involved in their development.

Concerning other scientific outputs, although there was a high degree of support for the added value of the involvement of external experts in the drafting of ECDC's scientific outputs<sup>289</sup>, as well as their contribution to the resulting high quality of these outputs,<sup>290</sup> multiple consulted stakeholders expressed a lack of clarity on how the external experts were chosen and validated.<sup>291</sup> In addition, there was a perception that the majority were concentrated in national public health institutes and CCB roles. This point was also raised as another benefit of ensuring National Coordinators are always informed during the selection of external experts, as they could contribute to recommending experts and widening the range and variety of expertise including, for instance, more Learned Society representatives, as highlighted above.

Options to strengthen the mechanism through which the Centre leverages on the expertise available to it have also been raised during ECDC Advisory Forum discussions. For instance, in a 2017 AF discussion, it was suggested to establish a process through which a forward schedule of non-serial scientific outputs would be published on an annual basis, and include a process for providing stakeholders with the opportunity to register an interest to contribute to the authorship and/or to comment on the draft output.<sup>292</sup> NFPs for Scientific Advice, who as part of their responsibilities are tasked with improving engagement with EU research funders and other relevant scientific stakeholders<sup>293</sup>, could also be leveraged on in this scenario.

A final point concerns ECDC's use of available expertise related to its proactivity in capitalising on Member State expertise over the evaluation period when it could have proven beneficial. For instance, an interviewee gave the example of the 2009 Influenza pandemic, during which ECDC drew on the UK's expertise to respond to the outbreak. Specifically, at that time the UK was the leader in pandemic planning modelling and ECDC proactively leveraged their expertise in the methodology to strengthen the EU-wide response by, for example, organising meetings between countries, and ensuring pandemic planning was on national agendas. There is no evidence of similar initiatives over the timeframe of the current evaluation. In addition, other consulted stakeholders highlighted that this could have proved beneficial in certain cases, e.g. capitalising on the expertise gained by Mediterranean countries in the case of the Ebola outbreak and migrant crisis. Nevertheless, it should be noted that every year, during the elaboration of the next year's Single Programming Document, Member States are invited to inform ECDC if their country/agency has developed

some particular experience that they consider to be relevant to the activities in the draft annual work programme. The evaluation did not find any evidence of Member States' responding to this call. As such, this also reflects the need for Member States to more proactively offer their experience and expertise where relevant.

**In summary, ECDC's involvement of external expertise to develop its regular scientific outputs is of added value and effective in producing outputs of high scientific quality. However, evidence from desk research, an analysis of a random sample of RRAs and stakeholder feedback suggests there is scope for strengthening the mechanism for informing National Coordinators which national experts will contribute to their elaboration. This was highlighted as an important element when external experts are drawn on for their local knowledge, and are therefore representing national interests in their capacity. In addition, that it also ensures that National Coordinators have the necessary overview of the national resources being allocated to ECDC tasks. Concerning other ECDC scientific outputs, there is a high degree of support for the added value of the involvement of external in contributing to their high quality. However, there is a lack of clarity amongst consulted stakeholders on how the external experts are chosen and validated. ECDC could strengthen the mechanism for involving experts in the writing of these outputs by publishing a schedule of non-serial scientific outputs on an annual basis and providing stakeholders with the opportunity to register an interest to contribute and by strengthening the mechanism for notifying National Coordinators in the selection of external experts. Finally, there is evidence that the Centre has mechanisms in place to encourage Member States to inform ECDC if their country/agency has developed some particular experience that they consider to be relevant. However, the analysis returned no evidence that this mechanism was used by Member States over the evaluation period.**

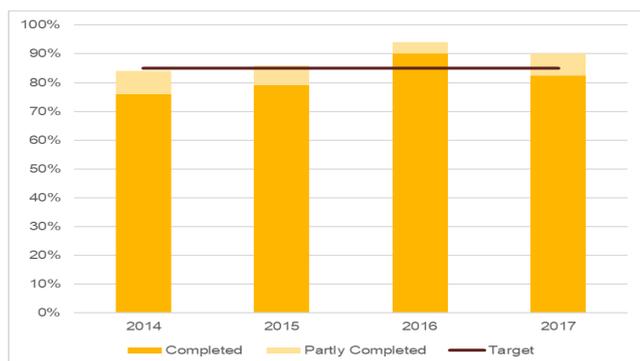
*SEQ 4.12 To what extent has the implementation of multi-annual work programme for 2013-2017 been accomplished and contributed to meet the core objectives?*

Covering the period 2007–2013, ECDC's first strategic multi-annual work programme (SMAP) was developed during the early stages of the Centre and thereby focused on the development of ECDC's core functions and programmes. The SMAP 2014-2020 (which covered the majority of this evaluation's timeframe and is therefore the focus of the current analysis) builds on the first programme and focuses on maximising the effectiveness and value for money delivered by ECDC's existing functions and programmes as well as improving the Centre's alignment with national and EU-level priorities in the area of control and prevention of communicable diseases<sup>294</sup>. To monitor its progress on those efforts, ECDC established a set of indicators, which are incorporated in to its Single Programming Documents (SPD) and reviewed annually in the Annual reports of the Director to track the results of its operations in achieving its core objectives. The Centre also conducted a mid-term review of the implementation of the SMAP 2014-2020 in 2016 to give an overview of the achievements, delays in activities and activities that do not seem relevant anymore.<sup>295</sup>

ECDC's annual work programme activities and indicators are aligned with the SMAP in order to ensure its full implementation and alignment of annual activities with the Centre's core objectives. As can be seen in the following figure, the Centre achieved its targeted 85% of activity implementation in every year except 2014 when it achieved 84%. The remaining proportion of activities not implemented for each year refers to activities that were either delayed, postponed or cancelled.

Nevertheless, it should be noted that the lower proportion of activity implementation seen in 2014 and 2015 can largely be attributed to the influence of external factors. Specifically, a higher percentage of planned activities were cancelled in these years due to the Ebola outbreak and irregular financial planning in 2013 in light of an outstanding ECJ budget appeal<sup>296</sup>. These should therefore not be taken as a result of misalignment of the Centre's activities with its core objectives, especially concerning the Ebola outbreak.<sup>297</sup> In addition, these results should be considered in tandem with the analysis under SEQ 4.1 and in light of the fact that the Centre absorbed additional tasks as a result of the Decision 1082/2013 during the evaluation period without a corresponding increase in the EU subsidy for the Centre.

Figure 39 Figure 40 Proportion of annual work programme activities completed or partly completed 2014-2020



There is also evidence that ECDC has been proactive in taking actions based on the results of these indicators to make the necessary adjustments, with a view to improve performance. For instance, the SMAP 2014-2020 established an 80% target indicator for the production of RRAs within 48 hours of the initial decision. In 2014, the Centre decided to revise the indicator to instead capture the number of RRAs produced *within the set deadline*. This was based on a reflection on the variation across RRAs in terms of the proposed deadlines, which are not always 48 hours and set based on the urgency, availability of data and information, availability of staff.

**In summary, the evidence indicates that ECDC has achieved the implementation of its multi-annual work programme in order to contribute to its core objectives throughout the reference period. This in light of external influencing factors such as the Ebola crisis and outstanding ECJ budget rappel in 2013, as well as an increase in the number of tasks to be carried out as a result of Decision 1082/2013.**

**SEQ 4.13 To what extent do the existing prioritisation and deprioritisation mechanisms allow for the selection of the most relevant priorities for the Member States, the European Commission and the European Parliament?**

IRIS is a tool developed and revised through consultation with the ECDC Advisory Forum to support the Centre in prioritising its work and assisting Member States of the European Union (EU), the European Commission and the Parliament, other EU agencies and international organisations (e.g. World Health Organisation) within the field of public health and communicable diseases. The priority setting tool is carried out in the Advisory Forum, as the body responsible for supporting close cooperation between the Centre and Member States on the scientific and public health priorities to be addressed in the work programme, as well as supporting the scientific excellence of the Centre and advising the Director.<sup>298</sup> The tool aims to ensure that the prioritisation and initiation of the Centre's actions are performed in a transparent and open fashion, to safeguard its scientific excellence and ensure the relevance of ECDC's work for Member States.<sup>299</sup> In addition, by effectively focusing the Centre's work on topics which are most important for the European community, it should ensure the efficient and equitable use of limited available resources.

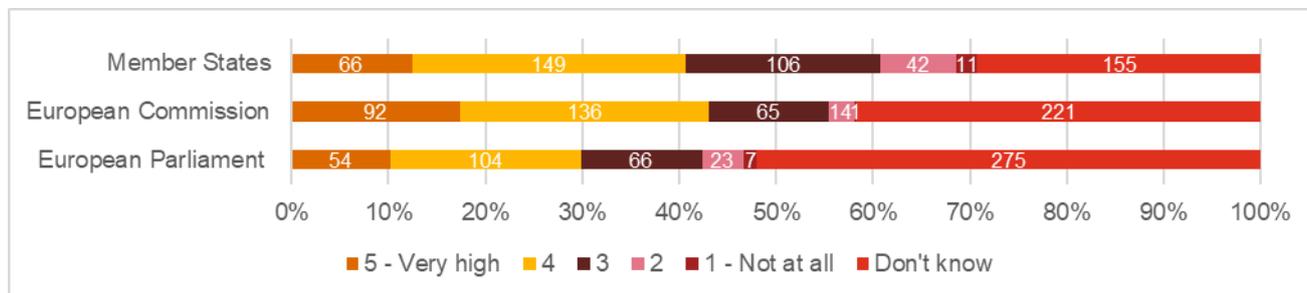
The tool has support from Advisory Forum members in terms of its usefulness, although areas of improvement to the tool were identified over the evaluation period. For instance, the ECDC stakeholder surveys carried out over the evaluation period<sup>300</sup> found a positive consensus concerning the usefulness and coherence of the mechanism, but recognised that there was scope for improving its effectiveness. These included fine-tuning of the process e.g. refining the criteria for prioritisation, adjusting the timelines of the process, adapting the proposed format and overall process, as well as ensuring the process addressed more projects with a wider and less narrow perspectives<sup>301</sup>. This led to improvements to the tool in 2015 and a modified IRIS framework was presented and piloted during the AF52, in February 2018<sup>302</sup>. Notably, the revised IRIS process<sup>303</sup> focuses on suites of proposals, instead of individual projects, providing a mechanism for the AF to advise on the broader strategic direction of the Centre's activities, including activities that could be downscaled.<sup>304</sup>

Evidence suggests that the modifications to the tool have successfully resulted in improvements to its effectiveness. Feedback collected after the first piloting of the revised version of the tool in 2018 was overwhelmingly positive, with Advisory Forum members supporting its utility and the simplified process, as well as the limit to two proposals. This was also supported by interviewed Advisory Forum members of the current evaluation, with a consensus that positive improvements had been made to the tool over the reference period, especially concerning the clarity and transparency of the Centre's prioritisation and activity planning.

Concerning the extent to which the existing prioritisation and deprioritisation mechanisms allow for the selection of the most relevant priorities for the Member States, the European Commission and the European Parliament, as discussed under the analysis of Relevance, the Centre's work was concluded to be of relevance to its stakeholders. In addition, the 2018 prioritisation proposals addressed the topics of e-health and digital strategy and the Foresight Programme, for the enhancement of early warning and preparedness for infectious disease threats in Europe. Both topics were scored highly in terms of their relevance by Advisory Forum members (both scoring a median of 4 out of 5). Secondly, in terms of the Foresight Programme, Advisory Forum members were asked to indicate, by polling, which disease areas ECDC should begin with under the programme, and the results ranked antimicrobial resistance first, followed by vaccine-preventable diseases, while food and water-borne diseases and emerging and vector-borne diseases were

ranked lowest. This is in line with the Centre’s priority areas, as well as the areas considered to be of highest relevance for its stakeholders (see EQ 1, EQ 2 and SEQ 11.3). This was also supported by the majority of surveyed respondents. As can be seen in the following figure, excluding respondents who answered “don’t know”, 57%, 74% and 62% considered that the existing prioritisation and deprioritisation mechanisms allow for the selection of the most relevant priorities for Member States, the European Commission and European Parliament respectively.

Figure 41: Do you agree that the existing prioritisation and deprioritisation mechanisms allow for the selection of the most relevant priorities for the following actors (n=529):



A factor identified as influencing the effectiveness of the mechanism includes the extent to which its outputs translate into the Centre’s work programmes<sup>305</sup>. The Centre successfully integrated 41% actions with the highest score as prioritised by the Advisory Forum into the 2014 Annual Work Programme, 60% in the 2015 Programme and 70% in the 2017 Programme<sup>306</sup>, consistently below the SMAP 2014-2020 target for 80% of the actions prioritised through IRIS to be integrated in to the annual work programme. This is supported by the findings of the ECDC DP evaluation, which identified variation between DP’s reliance on feedback from the IRIS.<sup>307</sup> To ensure the effectiveness of the tool, it is key that the results of the process be reliably implemented into the Centre’s activities.

Despite a positive consensus concerning the effectiveness of the IRIS tool as a mechanism for the prioritisation of the Centre’s work, the evaluation findings revealed little evidence of an effective mechanism for deprioritisation. Firstly, although the IRIS tool is used to rank the priority of the proposals in question, an analysis of the relevant Advisory Forum minutes returned no evidence of the tool being used for the explicit purpose of deprioritisation. Another mechanism for deprioritisation relates to the process for developing the Centre’s Single Programming Documents. In each year under evaluation, the Director of ECDC sent a letter to Management Board members to collect their feedback on the draft annual work programme for the following year, to serve as input for defining the programme’s activities in more detail. Within this letter, the Director requests members to provide their views on which activities they consider of no relevance, or that the Centre should stop doing, i.e. which are relevant for deprioritisation. Nevertheless, an analysis of the feedback provided by Management Board members returned no evidence of feedback on activities which could be deprioritized by the Centre. This was supported by the feedback received in interviews with ECDC staff and representatives of ECDC governing bodies, many of whom indicated that the tool was rarely used for the deprioritisation of topics. Given the context of financial constraints, it is important to ensure that both topics for prioritisation and deprioritisation be considered during the elaboration of the Centre’s annual work programmes.

Nevertheless, the ECDC Management Board regularly reviews the implementation of the Centre’s work programme, and these reviews have led to the deprioritisation of some ECDC activities over the reference period. Specifically, in 2017, a number of activities were deprioritised (i.e. cancelled or postponed) across 3 of ECDC’s Disease Programmes<sup>308</sup> to allow for the reallocation of human resources to the Centre’s Vaccine-preventable diseases (VPD) Programme.<sup>309</sup> This was in order to respond to the Commission’s prioritisation of work in the area of VPD and to allow ECDC to support the Commission and Member States in a number of initiatives in the area that required significant input during 2017 and 2018.<sup>310</sup>

**In summary, there is evidence that the IRIS tool is a relevant tool for prioritisation and ensuring the effectiveness of ECDC’s work planning. The evidence suggests that efforts to improve the tools’ effectiveness over the evaluation period have been successful, and it leads to the prioritisation of relevant topics for actors at the EU and national levels. Nevertheless, a factor identified as negatively influencing its effectiveness over the reference period was the extent to which the identified priorities are translated into the Centre’s work programmes, which remained below the targeted 80% of the actions prioritised through IRIS to be integrated in to the annual work programme, as set out in the ECDC strategic multiannual programme 2014-2020. Nevertheless, evidence suggest that the Centre’s mechanisms for deprioritisation are weaker. Specifically, the analysis returned no evidence that the IRIS tool had been used for the purpose of deprioritisation. Secondly, although members of the Management Board are invited to propose activities for deprioritisation during the**

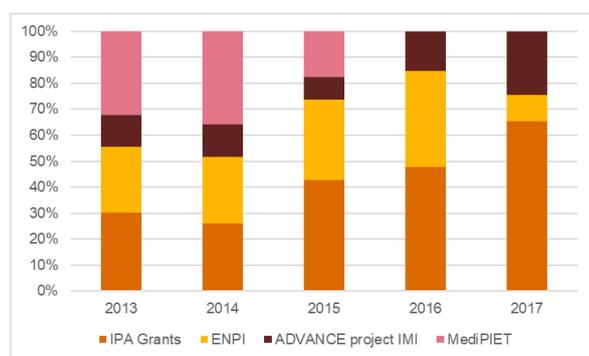
elaboration of the Centre's annual work programmes, the analysis found no evidence that this mechanism had been used over the reference period.

There is, however, evidence of activities being deprioritised in 2017 after a Management Board members' review of the implementation of the work Programme. This was to allow for the reallocation of the Centre's resources to the VPD Programme, to respond to the Commission's prioritisation of work in the area. To ensure the effectiveness of the Centre's activities and the most efficient use of its resources, additional efforts should be made to ensure that the official mechanisms for prioritisation and deprioritisation are used, and activities for prioritisation and deprioritisation are considered during the elaboration of the Centre's annual work programme.

**EQ 5: To what extent have EU grants received by ECDC to carry out specific activities to support non-EU/non-EEA countries affected the implementation by the Centre of its core objectives? To what extent the current governance and resourcing arrangements of the Centre are appropriate for effective decision-making and oversight. Is there room for improvement?**

*SEQ 5.1 To what extent have EU grants received by ECDC to carry out specific activities to support non-EU/non-EEA countries affected the implementation by the Centre of its core objectives?*

Figure 42 ECDC grant payment appropriations 2013-2017



As laid out in its international relations policy, ECDC funds most its operational activities in which non-EU countries participate with grants from the EC, accessible to EU Agencies<sup>311</sup>. As seen in Figure 42, grants received by the Centre through the EC Instrument for Pre-Accession Assistance (IPA), were the largest, amounting to approximately 1,7 million over the evaluation timeframe. The activities performed under the IPA grant in 2017 show that the Centre used these resources to perform a variety of related tasks including technical cooperation workshops, seminars on surveillance and technical assistance to members in these countries to facilitate their integration into the TESSy database.<sup>312</sup> There is evidence that the IPA has been efficiently managed and there are high levels of support for its added value in participating countries<sup>313</sup>. Funding received under the

European Neighbourhood Partnership Instrument (ENPI) was the second largest EU grant received by the Centre, aimed at supporting the European Neighbourhood Policy through the progressive participation of ENP countries in ECDC activities (so-called ECDC-ENPI project). The revenue received under the ENPI grants over the reference period amount to approximately EUR 1 million. Activities carried out under this grant include technical assistance to familiarise stakeholders in these countries with ECDC activities and outputs, establishing networks and contact points, facilitating the integration of these countries in to ECDC platform (e.g. EPIS) as well as workshops on relevant topics such as the Centre's priority disease areas<sup>314</sup>.

ECDC also participated in the Mediterranean Programme for Intervention Epidemiology Training (MediPIET) project. Activities carried out under the MediPIET project contributed to strengthening the capacity of participating countries in terms of public health workforce, creating sustainable network of experts and institutions and the establishment of sustainable and comprehensive training infrastructures<sup>315</sup>.

Therefore, the majority of ECDC's grant-funded activities to support non-EU/non-EEA countries serve to increase their capacity by promoting EU health standards and integration with ECDC networks and systems. This is in line with EU policy objectives<sup>316</sup> and the Centre's objectives to actively support the strengthening of the EU's and Member States' capacity to improve communicable disease prevention and control, as laid out in its Founding Regulation<sup>317</sup>. Specifically, due to the cross-border nature of infectious diseases and the risk posed by weaker systems, capacity building in neighbouring countries is key in supporting the control of communicable diseases within the EU, a factor highlighted and supported by consulted stakeholders. In addition, the integration of these countries into ECDC systems and networks should serve to improve the quality of their data, epidemic intelligence activities and outputs.

Although these grant-related activities in non-EU/EEA countries are in line with ECDC's objectives, the grants received by the EU cannot be used to finance the human resources that the Centre has to dedicate for their implementation. As a result, these activities can be considered to have been implemented at the expense of ECDC's activities focused on the EU/EEA. ECDC does not report on the total amount of resources dedicated to grant-related activities, but an analysis of the resources spent on international activities towards non-EU countries (including the MediPIET

programme) show that over the evaluation period they have averaged around 6 FTEs per year, which is less than 3% of the Centre's total FTE resources. The relatively small share of human resources dedicated to such activities over the evaluation period does not suggest that this hypothetical effect has taken place in any significant magnitude. A review of the Centre's strategic and reporting documents and consultations with staff and other stakeholders also does not indicate that such grant-funded activities have been to the detriment of the Centre's implementation of its core objectives. Nevertheless, as discussed under SEQ 1.2 and SEQ 5.2, the Centre has also not been able to fulfil the demand for additional activities towards non-EU/EEA countries, which points to the need for additional resources in this area.

**In summary, the Centre's grant-funded activities in non-EU/EEA countries have been mostly targeted at capacity building, primarily aimed at the gradual integration of candidate and potential candidate countries for EU accession into ECDC activities and networks. This is aligned with the Centre's objectives and EU policy goals on health security. However, the Centre has to use its own human resource to implement such activities, which in a bigger magnitude, could be to the detriment of its implementation of its core activities.**

*SEQ 5.2 To what extent are the current governance and resourcing arrangements of the Centre appropriate for effective decision-making and oversight? Is there room for improvement?*

ECDC's grant-related activities in non-EU/non-EEA are not subject to a separate mechanism from the overall resource and governance arrangements of the Centre and decisions regarding the Centre's involvement are taken as part of the annual planning process and approved by the Management Board. In addition, ECDC reports also directly to the Commission regarding the implementation of the activities.

According to Article 9 of ECDC's Founding Regulation, ECDC can request additional resources from the Commission for implementing international activities, but as discussed in SEQ 5.1, although ECDC can use the grants to finance costs related to travel or the participation of non-EU/EEA countries, it has to provide its own human resources for the implementation of the activities. This places a limit on the ability of the Centre to engage in such activities, as noted in an exchange of letters between Commission services on this matter.<sup>318</sup> For example, as regards MediPIET, according to interviewed representatives of the European Commission (DG SANTE, DG DEVCO) and ECDC, the Centre was not able to take lead in the second part of the project, as requested by the Commission, due to difficulties in ensuring sufficient staff resources for the management of such a large scale project. Instead, the programme was implemented by public health organisations from Spain<sup>319</sup> and ECDC took on a limited role in providing technical support to the training network, and providing scientific leadership to the Programme by serving on its Scientific Advisory Board.<sup>320</sup>

Furthermore, the grant-based funding for these activities is a challenge for their sustainability, as in the case of termination of their funding, consistent follow-up to build on achievements is not guaranteed. The grant based funding for the work with the European Neighbourhood Policy (ENP) partner countries finished in the end of 2016 and since then ECDC has used other Commission funding mechanisms, in particular TAIEX, to continue the collaboration. However, this non-sustainability of funding endangers the relations with neighbouring countries built up over the course of the project.<sup>321</sup>

The European Commission has expressed a clear need for ECDC to be involved in capacity building in the public health domain necessary in the EU Neighbourhood and beyond, given the Centre's unique position to contribute to such efforts.<sup>322</sup> Given the insufficient effectiveness of the available mechanisms for the Commission to ensure additional resources for the Centre that enable it engage in such activities to the level required, there is a need for the Commission and ECDC to find a more effective solution to ensure ECDC's sustainable involvement.

**In summary, under the current grant financing mechanisms for activities in third countries, ECDC's involvement is constrained by the availability of staff resources which can be dedicated to the implementation of grants. Given the Commission's need for continued support by ECDC for activities in third countries, the resourcing mechanisms for such activities should be strengthened.**

**EQ 6: What factors influenced what was achieved or not achieved?**

Based on the above analyses, several recurrent factors emerged which underpin what was achieved and not achieved. Firstly, the high quality of the Centre's information outputs can be considered a strong positive influencing factor, which contributed to it effectively meeting its objectives. The Centre's Rapid Risk Assessments, Round Table reports, expert opinions, evidence based guidance and the scientific journal Eurosurveillance, hosted by ECDC, were all found to be of a high scientific quality. This has been supported by the high calibre of ECDC's scientific staff and the involvement of external experts in the production of several ECDC Scientific Advice outputs. In addition, the timeliness and reliability with which the Centre communicates its outputs, which was also found to have improved over the reference period and

has corresponded with an increasing impact factor of Eurosurveillance and growing visibility in the media. As such, the evaluation found extensive evidence of their outputs being used as input to control and prevent threats from communicable diseases both at the EU level and national level. This includes key priority areas for the European Union, such as vaccine hesitancy.

Several benefits for the Centre's effectiveness are derived from its position at the EU-level. Firstly, its epidemic intelligence activities and outputs are of considerable added value for Member States, particularly when the threat originates from outside the EU, and reduces the need for Member States to carry out this activity individually at the national level. Secondly, ECDC's position has helped it effectively contribute to cross-border coordination between EU Member States, thereby strengthening the prevention and/or control of communicable diseases. For instance, ECDC's surveillance tools EPIS and TESSy have promoted harmonisation between Member States, and facilitated multi-country responses to disease outbreaks. Finally, the Centre has effectively contributed to the prevention and/or control of communicable diseases across the EU as a result of the networks and connections it has established through its various activities and outputs.

The evaluation found no evidence that the Centre had failed to achieve any of its core objectives.

**In conclusion, the high scientific quality of the Centre's outputs is a factor positively contributing to the effectiveness to which the Centre met its core objectives over the evaluation period. A number of ECDC's outputs, in particular its epidemic intelligence, surveillance tools and contribution to disease surveillance networks has also effectively contributed to harmonisation and coordination between Member States, which has positively influenced what was achieved over the reference period.**

# Evaluation of Impact

## **EQ 7: Which factors contributed and which factors impeded the Centre to have a significant impact to enhance the capacity of the Community and various stakeholders (Member States, scientific community, etc.) to identify, assess and communicate current and emerging threats to human health?**

### *SEQ 7.1 Which factors contributed and which factors impeded the Centre to have a significant impact to enhance the capacity of the Community and various stakeholders (Member States, scientific community, etc.) to identify, assess and communicate current and emerging threats to human health?*

The assessment of ECDC's impacts in the context of the present evaluation is based on the triangulation of different sources of evidence that indicate the Centre's ability to contribute to targeted impacts in terms of strengthening surveillance, prevention and control of communicable disease through some of its activities (see SEQ 7.2). As noted under SEQ 7.2 and SEQ 7.3, the Centre is presently lacking a system for measuring the impacts of its activities and consequently, the assessment of the factors that affect the Centre's ability to contribute to these is limited to the qualitative evidence (views) provided by consulted stakeholders who commented on this question.

One of the factors identified as contributing to the Centre's impact on enhancing the capacity of the Community and relevant stakeholders to identify, assess and communicate current emerging threats to human health is the high scientific quality of its outputs and its growing reputation and recognition. Specifically, findings under the Effectiveness section show that the Centre's outputs are of high scientific quality, as demonstrated by increasing usage of its outputs as well as rising impact factor of its Scientific Advice outputs.<sup>323</sup>

Secondly, there is evidence that the Centre has garnered an increasingly positive and widespread reputation in scientific communities. This is also true amongst policy-makers, as evidenced under the Relevance and Effectiveness sections<sup>324</sup>. In addition, its reputation is also positively increasing in networks extending beyond EU borders, as evidenced by their involvement in the establishment of the Africa CDC,<sup>325</sup> capacity strengthening activities in neighbouring countries<sup>326</sup> and their participation in relevant international discussions.<sup>327</sup> An important factor underpinning this is the Centre's ability to attract staff with a high level of scientific expertise, who in turn produce outputs of high scientific quality. This is evidenced by the Centre's low vacancy rates over the evaluation time frame.<sup>328</sup>

The ability of the Centre to adapt to emerging priority areas and new diseases (see discussion under Relevance questions) was also highlighted as a positive factor, with multiple stakeholders citing the Centre's work on Zika and its technical assistance during the Ebola outbreak.<sup>329</sup>

**In conclusion, the high scientific quality of its outputs is a factor positively contributing to its impact that is supported by the high calibre of the Centre's scientific staff. Secondly, there is evidence that the Centre has provided significant added value through its international activities, especially neighbouring countries. The ability of Centre to address relevant priority areas and emerging diseases was also highlighted as a positive factor influencing its impact.**

### *SEQ 7.2 To what extent have surveys and studies funded by ECDC improved Member States' capacities to strengthen surveillance, prevention and control of communicable diseases (in particular, studies on vaccine effectiveness, AMR, vector-borne diseases)?*

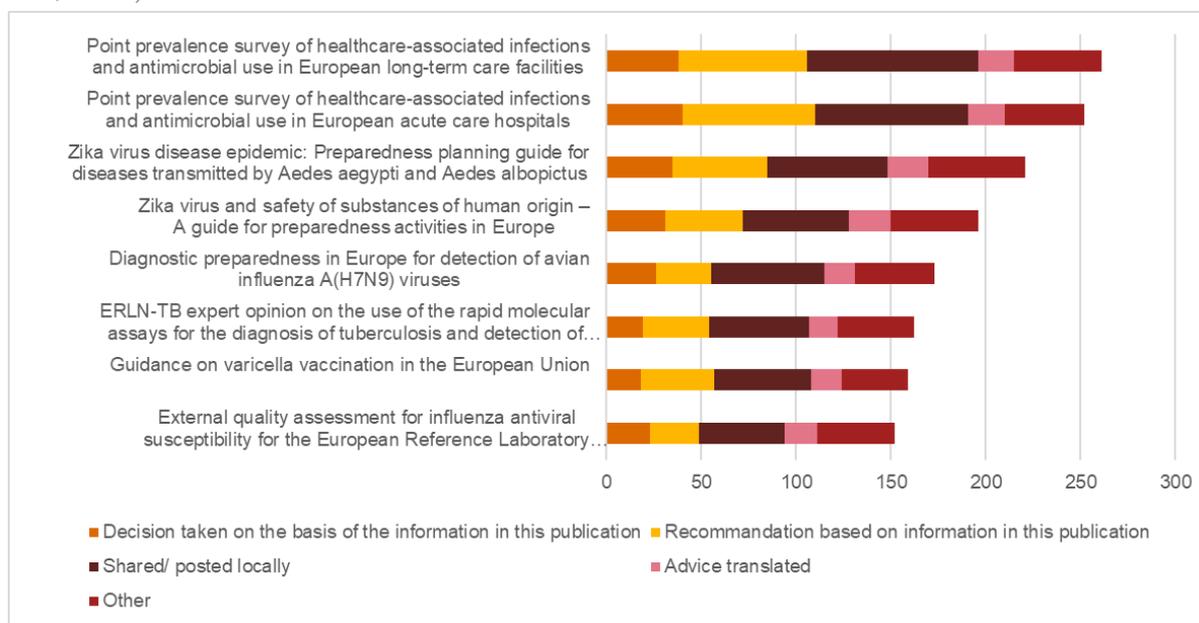
Capturing the impact of ECDC's studies and surveys on improving Member States' capacities to strengthen surveillance, prevention and control of communicable diseases is difficult to ascertain in terms of, e.g. robustly demonstrating their effect on increasing the vaccination coverage in Member States. However, the ensuing analysis strongly suggests that the Centre's outputs are being used and having an impact at the national level in the EU.

The surveys and studies funded by ECDC aim at providing evidence that if taken into consideration by public health authorities in Member States should lead to strengthening of the surveillance, prevention and control of communicable diseases. The indirect indicators of this impact related to the different ways in which such outputs are used at national level. The ECDC 2014 stakeholder survey analysed stakeholders' use of a sample of ECDC publications. The most frequent form of use of ECDC publications reported was further dissemination locally (38%), as well as giving recommendations based on information in the publications (27%). This is in line with the feedback from the current evaluation's survey, in which respondents reported predominantly using the publications as a basis to inform

recommendations and influence regional and national policy makers (see detailed analysis under EQ 9). All of the publications were reported to have been used as a basis for decisions or recommendations by at least one MS.

Specifically as regards studies in the areas of vaccine effectiveness, AMR, vector- borne diseases, on average 41% of the survey respondents reported that they have used at least one of the publications in these areas included in the sample studied for the evaluation (see selection in Figure 43).

Figure 43 Frequently used ECDC publications in the areas of vaccine effectiveness, AMR, vector- borne diseases (Survey data, n=480)



### Vaccine-effectiveness

There is extensive evidence that ECDC surveys and studies in the area of vaccine-effectiveness are being used at national level. Based on survey results, in Italy and Luxembourg, ECDC’s publication “Diagnostic preparedness in Europe for detection of avian influenza A(H7N9) viruses” was used to establish diagnostic assays for screening and confirming cases of H7N9 in humans. In Norway, it was reported to have been important for supporting the development of laboratory capacity for influenza. Finally, ECDC guidance documents in the area of vaccine effectiveness have been disseminated in several different national public health organisations, as shown in the following figure, which shows examples of the dissemination of some of these ECDC outputs, including through translations. This supports the findings of the analyses of the effectiveness and added value of the Centre’s activities in the area of vaccine effectiveness (see SEQ 4.5 and SEQ 11.3).

Figure 44 Examples of dissemination of ECDC publications on AMR, vaccine effectiveness and vector-borne diseases by public health organisations at national level

ECDC publication	Examples of dissemination by public health organisations at national level <sup>330</sup>
Point prevalence survey of healthcare-associated infections and antimicrobial use in European long-term care facilities	<ul style="list-style-type: none"> <li>Belgium: Sciensano (<a href="#">Link</a>)</li> <li>Italy: Istituto superiore di sanità (<a href="#">Link</a>); Tuscany Regional Health Agency (<a href="#">Link</a>)</li> <li>Netherlands: Ministry of Health /RIVM (<a href="#">Link</a>)</li> <li>Slovenia: Presentation to the Ministry of Health (<a href="#">Link</a>)</li> <li>Lithuania: Institute of Hygiene (<a href="#">Link</a>)</li> <li>UK: Public Health Wales: (<a href="#">Link</a>)</li> </ul>
Guidance on varicella vaccination in the European Union (2015)	<ul style="list-style-type: none"> <li>Hungary: National Centre for Epidemiology (<a href="#">Link</a>)</li> <li>Italy: Istituto superiore di sanità (<a href="#">Link</a>)</li> <li>Spain: Spanish Association of Pediatrics (<a href="#">Link</a>)</li> </ul>

ECDC publication	Examples of dissemination by public health organisations at national level <sup>330</sup>
Zika virus disease epidemic: Preparedness planning guide for diseases transmitted by Aedes aegypti and Aedes albopictus	<ul style="list-style-type: none"> <li>• Sweden: Ministry of Health (<a href="#">Link</a>)</li> <li>• Spain: The Andalusian School of Public Health (<a href="#">Link</a>)</li> <li>• Italy: Istituto superiore di sanità <a href="#">Link</a></li> </ul>

Additional ECDC outputs in the area of vaccine-effectiveness were highlighted as having been strongly appreciated by EU Member States during interviews with ECDC staff. These included the 2017 expert opinion on the introduction of the meningococcal vaccine, the 2013 risk assessment of the poliovirus transmission in Israel, the case study on preparedness planning for polio in Poland and the handbook for implementation or management of immunisation information systems.<sup>331</sup> Particularly in relation to the handbook on implementing electronic registries for immunisation, interviewed ECDC staff indicated that the document had generated a lot of interest from EU Member States in setting up national electronic registries and that several countries had already used it as a guidance document to implement electronic registries at the national level. A 2014 ECDC Management Board working group on New Business Models and Financing of Large-scale EU Level Activities EU-level studies highlighted the added value of the Centre conducting EU-level studies, citing benefits including increased public trust in immunization programmes, minimising the duplication of efforts and providing information to inform decision-making. It was considered that an indirect side effect of the EU level studies was to strengthen expertise and and/or infrastructure when it is suboptimal at country level.

Nevertheless, no secondary documentary evidence was available to support this, and/or demonstrate the impact ECDC studies and surveys on improving Member State capacities to strengthen surveillance, prevention and control of communicable diseases in the area of vaccine effectiveness. Interviewed ECDC staff clarified that in general they were aware of the use of their products by Member States only via informal communication channels. In addition, they suggested that collecting formal and regular feedback on the use and impact of these outputs at national level would be a beneficial development.

### Antimicrobial resistance

Concerning the impact of ECDC AMR studies and surveys, there is extensive evidence that they are being used at national level. According to survey respondent feedback, the Point Prevalence surveys have served as the basis for national surveillance plans in Hungary and the Netherlands, as well as the national plan on AMR in Italy and Luxembourg.<sup>332</sup> In addition, they were reported to have informed policy makers about the performance of their country compared to other EU countries in the case of France. In Poland, the survey in acute care hospitals was reported to have been translated and used for training and data collection in 200 hospitals. This feedback is supported by the information in the above figure, which shows that the ECDC point prevalence survey of healthcare-associated infections and antimicrobial use in European long-term care facilities was disseminated in 6 different national public health organisations. This also complements the findings of the analysis under SEQ 11.3, which highlights the added value of the Centre's activities in the area of AMR.

As was the case with the studies and surveys in the area of vaccine-effectiveness, no secondary documentary evidence was available to demonstrate the impact of the ECDC studies and surveys on improving Member State capacities to strengthen surveillance, prevention and control of communicable diseases in the area of AMR. The interviewed ECDC staff confirmed that beginning to gather data on the impact of the point prevalence surveys in particular would be a beneficial initiative, as is done on a yearly basis for the European Antibiotic Awareness Day<sup>333</sup>. In particular, that it would be of added value for their work to gather data on the how countries are using the results of the point prevalence survey and implementing actions.

### Vector-borne diseases

Concerning the impact of ECDC studies and surveys in the area of vector-borne diseases, there is also evidence that ECDC of their used at national level. For instance, feedback from survey respondents reported that ECDC's guidance documents on the Zika virus was used to communicate to national audiences in Denmark<sup>334</sup> and prepare national preparedness plans in Greece and Malta. This feedback is supported by the information in the above figure, which shows that the ECDC's Preparedness planning guide for the Zika virus disease epidemic was disseminated in 3 different national public health organisations. This also complements the findings of the analysis under SEQ 11.3, which highlights the added value of the Centre's activities related to vector-borne diseases.

Additional ECDC outputs in the area of vector-borne disease were highlighted as having been strongly appreciated by EU Member States during interviews with ECDC staff. These include the Centre's maps on distribution of vectors,<sup>335</sup> surveillance updates on the West Nile fever cases, Rapid Risk Assessments, expert meeting to share knowledge and best practices and the activities of the Emerging Viral Diseases Laboratory Network (e.g. trainings, capacity buildings, External Quality Assessments, ad-hoc support to risk assessments).

Nevertheless, as was the case with the studies and surveys in the areas of vaccine-effectiveness and AMR, no secondary documentary evidence was available to demonstrate the impact of the ECDC studies and surveys on improving Member State capacities to strengthen surveillance, prevention and control of communicable diseases in the area of vector borne diseases. The interviewed ECDC staff confirmed that the implementation of a formal mechanism or process for gathering data on the impact and use of their outputs would be a beneficial initiative. In particular, that it would be of added value for their work to gather data on the how countries are using the recommendations in the Rapid Risk Assessments, supporting the findings under SEQ 4.2.

**In conclusion, there is extensive evidence that ECDC studies and surveys in the areas of vaccine effectiveness, AMR and vector-borne diseases are being used and disseminated at the national level. However, the evaluation found that the Centre does not yet have formal mechanisms or processes in place for collecting evidence and/or information on the impact of its outputs in these areas, i.e. how they are being used and the outcome in terms of strengthening improvements in the surveillance, prevention and control of communicable diseases at national level in EU/EEA Member States.**

***SEQ 7.3 To what extent have the mechanisms and resources available for monitoring, reporting and evaluation of the Centre's activities ensured adequate accountability and assessment of performance and impact?***

ECDC's performance monitoring framework is set up in the context of its 2014-2020 Strategic Multi-annual Programme and includes a number of output and outcome indicators for each of the areas of activity of the Centre. However, the KPIs reported on in the context of the Annual reports of the Centre over the reference period do not reflect on historical trends, thus offering only a limited scope for interpretation and analysis of the results.<sup>336</sup>

In addition, cross-cutting findings from the analysis indicate that the Centre's activities could benefit, and its monitoring, reporting and the evaluation of its activities improved by developing additional indicators which better capture the impact of its activities (see, e.g. SEQ 4.2, SEQ 7.2).

As regards the Centre's evaluation activities, they are subject to an internal procedure established in 2014, on the basis of which the number of evaluations commissioned has been steadily increasing. As discussed in detail under EQ 23, there is room to improve the procedure for follow up on the results of evaluations, in order to ensure their effectiveness for contributing to improvements in the Centre's performance and impact.

**In summary, ECDC has the mechanisms in place for monitoring, reporting and evaluating the Centre's activities, ensuring adequate accountability and assessment of performance. However, there is scope for improving the Centre's indicators for measuring its performance in order to capture historical trends, and to better capture the impact of its activities.**

**Finally, there is room to improve the Centre's internal procedure for follow-up on the results of evaluations, in order to ensure their effectiveness for contributing to improvements in the Centre's performance and impact.**

***SEQ 7.4 To what extent has contributing to the activities of the Centre caused Member States to divert resources (time, financial, people) to carry out this work, which could have produced a greater benefit if they had been used to support other activities/ objectives of the Member States. Are these marginal costs offset by any indirect gain from other activities of the Centre?***

In order to implement its mandate, ECDC relies on the input of Member States through the Coordinating Competent Bodies (CCB). CCB members (national coordinator, national focal points, operational contact points) should thus have sufficient resources to comply with their ECDC-related tasks to perform these activities. The issue of whether ECDC requests place an undue burden on Member States was brought up in a Management Board meeting in 2013, where Member States were invited to provide examples of this to the Centre.<sup>337</sup> A follow-up discussion in 2014<sup>338</sup> highlighted Member States' request that national capacities are considered to a higher extent in the drafting of ECDC's work programme and ensuring the focus remains on core business when there are constraints.<sup>339</sup> In addition, a 2016 a meeting was held with National Coordinators of the ECDC CCB to discuss and share best practices on how to ensure

smooth cooperation and interactions between ECDC and the Member States, and to identify ways of further improvement.<sup>340</sup>

Similar to the findings of the 2<sup>nd</sup> External Evaluation of ECDC, findings of the current evaluation indicate that the benefits from ECDC outweigh the burden for Member States in terms of time, financial and human resources, associated with carrying out its work. For instance, the evidence presented under the Added Value section shows that the Centre's activities have also achieved lower costs for Member States as a result of its interventions<sup>341</sup>. This is especially true in relation to the Centre's epidemic intelligence activities, which have reduced the need for Member States to carry out these activities, thereby allowing them to divert resources to other activities. In addition, consulted stakeholders were able to provide examples whereby the Centre's activities had promoted a positive diversion of Member State resources, e.g. towards new areas of priority which had not been previously been the areas of national priority<sup>342</sup>. A review of country visits reports shows that the observations and recommendations provided by ECDC following country visits take into account the financial aspects of the studied issue and point out the cost-effectiveness of the recommended measures.<sup>343</sup>

This is supported by a general positive consensus amongst consulted stakeholders concerning the burden imposed by ECDC on their organisation. Although it was acknowledged by the majority that the related burden was high, there was also a consensus that it was justified in relation to the benefits derived from ECDC activities. In addition, that overall, the time invested in activities related to the Centre (especially concerning collection and reporting of data) were aligned with producing national benefits and as such were not a diversion of resources. Furthermore, evidence under Effectiveness suggests that the related burden of some of the Centre's activities has reduced over the reference period<sup>344</sup>. This is reflected in the survey figures, with 65% of surveyed respondents rating the added value of ECDC as outweighing the burden imposed by its tasks, with only slight variation in responses across countries. In addition, the majority of CCB members interviewed, who should constitute the stakeholder group with the highest time investment in ECDC activities, perceived that the benefits that their Member States derived from ECDC were higher than the resources spent in collaborating with them. Similarly, presentations from CCB representatives at the 2016 meeting of National Coordinators expressed an overall appreciation for the work of ECDC, despite areas for improvement.<sup>345</sup>

**In conclusion, there is evidence that the burden of the Centre's activities have induced marginal costs offset by any indirect gain from other activities of the Centre, especially in relation to its epidemic intelligence activities. Further, the Centre has contributed at times to a positive redistribution of Member States' resources. This was supported by consulted stakeholder feedback, which indicated that the added value of the Centre outweighs the burden related to its activities for Member States and that the burden has been reduced over the reference period.**

**EQ 8: How could shortcomings identified in ECDC's effectiveness and impact be addressed?**<sup>346</sup>

The analysis of ECDC's effectiveness and impact identified different areas in which there is room for improvement of the Centre's performance. In the following table we present an overview of the areas and the corresponding means of addressing the shortcomings. These have been formulated on the basis of suggestions by the consulted stakeholders who noted deficiencies in the status quo, as well as the evaluators' own assessment of the issue, and were validated through focus group discussions with stakeholders of the Centre. The evaluation recommendations focusing on effectiveness and impact improvements presented in the respective sections build on this analysis.

*Table 6 Identified shortcomings in the Centre's effectiveness and impact and recommended measures to address them*

Identified shortcomings in the Centre's effectiveness and impact	Recommended measures to address them
There is room for further clarification of ECDC's mandate in the area of preparedness.	The European Commission and ECDC should undertake a review of current EU and international obligations in the area of preparedness and allocate more clearly the tasks between the EC, ECDC and Member States in order to avoid duplications and ensure synergies, including with obligations under IHR.
There are remaining issues with the comparability and completeness of data collected through the surveillance networks.	ECDC's mechanisms for ensuring consistent and systematic surveillance reporting should be strengthened in line with recommendations from the completed and ongoing EPHESUS evaluations and the Centre should provide support (e.g. training) to Member States with low reporting frequency.

Identified shortcomings in the Centre's effectiveness and impact	Recommended measures to address them
The recommendations of RRAs are not always sufficiently specific and adaptable to national contexts and there is no assessment of their use and impact.	ECDC should carry out a study of the use of RRA recommendations and strengthen the methodology for recommendation development, so as to increase their relevance.
There is evidence that ECDC could increase the impact of its information dissemination activities by expanding efforts in enabling more sharing of information between Member States.	ECDC could establish a platform on which Member States can share best practices and documents in order to facilitate the sharing of experience and dissemination of relevant information.
There is variation in participation across the different EPIS platforms, which appears to be correlated with the resource availability in Member States with a core set of countries regularly contributing while others remain unresponsive.	ECDC should make further efforts to increase participation in the system and provide support (e.g. trainings on reporting) to Member States with low reporting frequency in the EPIS system.
There is not sufficient geographical diversity in the external expertise drawn upon by ECDC for input into various outputs (e.g. RRAs, scientific guidance and opinion), and a concentration in certain PHIs and CCBs.	<ul style="list-style-type: none"> <li>• The effectiveness of the analysis of TESSy data and quality of the ECDC outputs involving external expertise could be increased via further involvement of external experts and a wider variety of external experts.</li> <li>• ECDC should ensure the involvement of national coordinators in the selection of external expertise</li> <li>• ECDC should continue efforts to establish a process through which a forward schedule of non-serial scientific outputs would be published on an annual basis, and include a process for providing stakeholders with the opportunity to register an interest to contribute to the authorship and/or to comment on the draft output</li> </ul>
ECDC toolkits and manuals are effective in promoting prevention and control of communicable diseases, but there is insufficient awareness of them among relevant stakeholders.	ECDC should further promote its toolkits and manuals among relevant stakeholders in order to increase their use and added value. More follow-up on their use at national level will help identify areas where awareness can be raised further and also generate evidence of their effect.
The ECDC Fellowship programme is very relevant and effective but is not sufficiently used by a number of Member States with low capacities in the area of public health epidemiology and microbiology.	<ul style="list-style-type: none"> <li>• ECDC should provide further support for Member States with lower capacities to make use of the Fellowship Programme via, e.g. alternative funding mechanisms</li> <li>• ECDC Training section should strengthen its needs assessment activities to determine how best to support the training needs of Member States in the field of epidemiology and microbiology.</li> <li>• ECDC Training section should provide alternative training options (e.g. continuous professional development programmes) at country level where necessary.</li> </ul>

# Evaluation of Utility

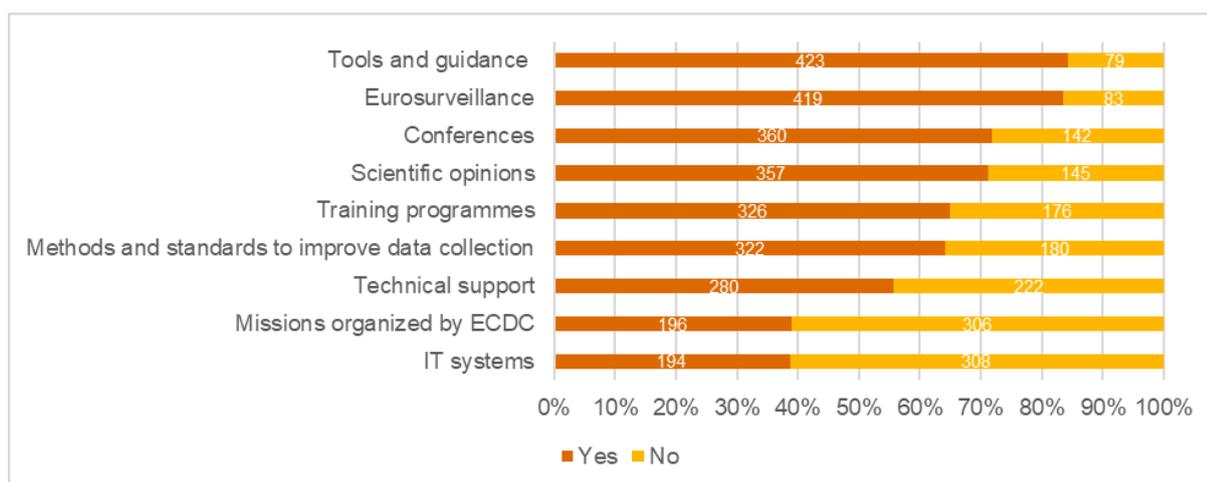
## EQ 9: To what extent have the Centre's stakeholders used the outputs of ECDC?

### SEQ 9.1 What activities and outputs are considered the most useful by stakeholders, partners and users?

The usefulness of ECDC's outputs and activities is assessed on the basis of the views and evidence provided by stakeholders consulted for the evaluation and the analysis of relevance, effectiveness, impact and Added Value under other sections of this report.

Firstly, one direct indicator for the use of different ECDC outputs and activities is the proportion of survey respondents who have used these outputs and activities. Of the respondents (see Figure 45), more than 95% reported that they have used at least one tool/participate in at least one activity, with the average respondent reporting use of/participation in 5 different outputs/activities. Further analysis of the responses by different stakeholder types shows that respondents from Public Health Institutes who can be considered as both contributors and users of the centre's outputs reported highest level of use across all different activities considered. Partners of the Centre (EU and international institutions, NGOs) reported to mostly use Eurosurveillance, methods and standards for data collection, the Centre's tools and guidance and scientific opinions.

Figure 45: Have you used the following ECDC outputs or participated in the listed activities?(n=502)



ECDC's tools and guidance and Eurosurveillance are the most frequently mentioned outputs with 84% and 83% of the respondents reporting that they have used them. This is confirmed by the analysis of Eurosurveillance's Impact Factor which increased from 4.65 in 2014 to 7.2 in 2017, consistently outperforming the target set and putting it amongst the top-ten infectious disease journals (see EQ 20.1).<sup>347</sup> Tools and guidance captures a broad range of ECDC outputs, including surveillance and outbreak tools, prevention and control tools and tools in the area of microbiology, training and communication. The analysis of effectiveness of such activities resulted in positive findings, affirming their ability to contribute to their intended objectives (see, e.g. SEQ 4.2 – 4.7 on the effectiveness of ECDC expert opinions, evidence based guidance, TESSy, EPIS, information dissemination, networking and training activities and technical assistance). For example, as discussed under EQ 4.8, communication toolkits produced by ECDC are used in all EU/EEA countries. ECDC has carried out country missions in about half of all EU countries, and consulted stakeholders from them rated positively their results, as discussed under SEQ 4.7.

The analyses of the Added Value under EQs 11-14 is also an important source of evidence for the usefulness of ECDC's outputs. The anticipated drop in the level of health security and health outcomes in the hypothetical scenario of ECDC not existing underscores the usefulness of ECDC's outputs and activities.

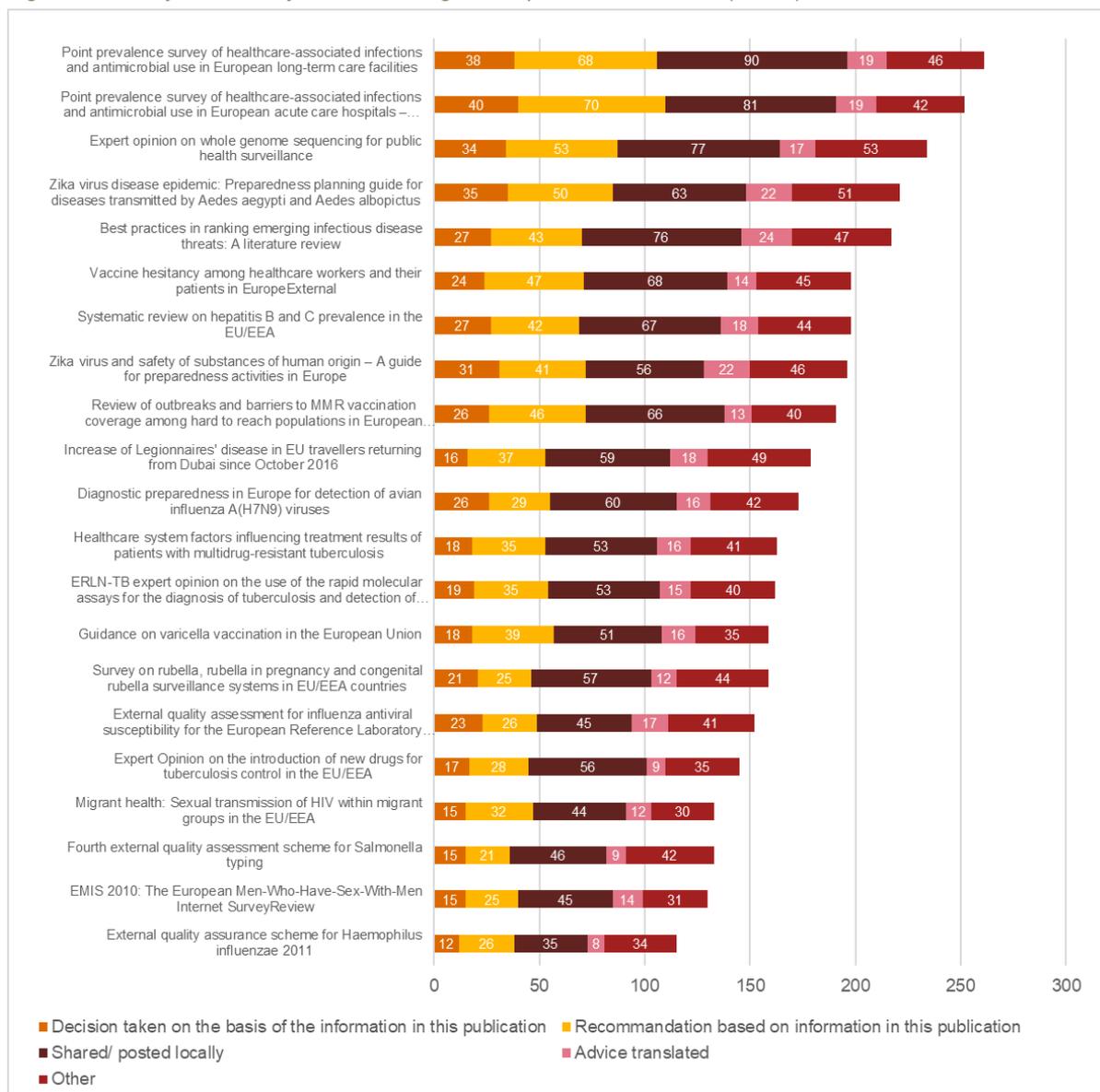
Although a ranking of the usefulness of all areas of activity of the Centre is not possible, it is worth pointing out a sentiment shared by a number of consulted stakeholders and often brought up in meetings of the ECDC Advisory Forum and Management Board<sup>348</sup> – namely that it is important for ECDC to keep focus on its core activities and take account of the capacity constraints faced by Member States for the implementation of new tasks.

In summary, the core activities of the Centre related to surveillance, outbreak response, scientific advice, training and technical support can be considered most useful for stakeholders of the centre.

**SEQ 9.2 To what extent have ECDC outputs improved the level and quality of information at Member State and EU level, and are translated at the national level into effective public health policy and practice?**

In order to obtain evidence of how ECDC outputs improve the level and quality of information at Member State and EU level, and are translated at the national level into effective public health policy and practice, a sample of published ECDC outputs (see Figure 46) , representative of the Centre's different areas of activity, was drawn and surveyed respondents were asked to report on and provide examples of their use. Specifically, they were asked to report if the information provided by ECDC via these publications was used as the basis of decisions on public health measures or recommendations on such, whether the information was disseminated locally or other types of use.

Figure 46 Have you used any of the following ECDC publications? How? (n=480)



Further analysis of the data presented in Figure 46 shows that all 21 publications in the sample were used to inform decision-making, and that all EU/EEA Member States used at least one of these publications for this purpose. The publications most frequently mentioned by consulted stakeholders as used to inform decision-making were the Point Prevalence Surveys (PPS) of healthcare-associated infections and antimicrobial use in European acute care hospitals and long-term care facilities, which were used for this purpose in 28 and 30 EU/EEA Member States respectively.<sup>349</sup>

Similarly, ECDC's Expert opinion on whole genome sequencing and the Zika virus guidance on preparedness were used to inform decision making in 30 EEA Member States.

The following boxes provide more details and examples provided by consulted stakeholders concerning the use of these outputs for improving the level and quality of information in Member States and increasing the effectiveness of public health policy and practice.

#### **'Zika virus and safety of substances of human origin – A guide for preparedness activities in Europe'**

The consulted stakeholders found the guidance extremely useful at the time when the disease was emerging, and as a means to prepare national responses should Zika cases appear in the respective Member State. It was reportedly used to support national recommendations and to inform preparedness planning by the majority of the Member States. The documents were mainly used as a basis for the development of guidelines at the national level in 22 of the 28 Member States. In addition, recommendations were made based on the information in the publication by 27 of the 28 Member States. 25 of the Member States shared the information locally. In addition, the advice was translated into the national languages in 14 Member States.

#### **'Expert opinion on whole genome sequencing for public health surveillance'**

The consulted stakeholders stated that the output produced by ECDC on Whole Genome Sequencing (WGS) were shared and disseminated locally by the Member States. The evaluation also found that WGS priorities are set based on the publication. Furthermore, surveillance enhancement activities resulted from the WGS publication in multiple Member States. The analysis also found that 22 of the 28 Member States disseminated and shared the publication and 16 Member States translated the publication into their own national language for further distribution. In addition, 85% of the Member States based recommendations on information provided by this ECDC publication, while 75% made policy decisions on the basis of the information provided.

#### **'Best practices in ranking emerging infectious disease threats: A literature review'**

This ECDC publication has reportedly been published and disseminated locally, particularly by public health institutions. 16% of the respondents indicate that they had disseminated and shared the publication locally. The analysis found that all 28 Member States shared and disseminated this publication on emerging infectious disease threats locally. 16 Member States translated the advice into their respective languages. Decision-making was reported to have been informed by this publication in 16 Member States and recommendations based on this ECDC output were made in 18 Member States.

**In summary, based on the analysis of a sample of published ECDC outputs, representative of the Centre's different areas of activity, the evaluation finds that ECDC outputs in different areas of its activities contribute to improving the level and quality of information in Member States and increasing the effectiveness of public health policy and practice. The Centre's outputs in its different areas of work become the basis for recommendations and decision making and are often disseminated locally either directly or indirectly, thus contributing to raising awareness of the results of the Centre's work.**

**EQ 10: Decision No 1082/2013/EU has resulted in additional work for ECDC in the area of preparedness. To which extent are stakeholders aware of this additional work, consider it useful, and benefit from it, particularly in the context of analysing preparedness and response planning, communication, and reporting to the Health Security Committee to coordinate the risk management measures?<sup>350</sup>**

As discussed under SEQ 4.1, Decision 1082/2013 specifically attributes tasks to ECDC for epidemiological surveillance and early warning and response, but not for support on preparedness planning.<sup>351</sup> ECDC's report on Country preparedness activities<sup>352</sup> discusses its activities in supporting the Commission in the implementation of Article 4 of Decision 1082/2013/EC concerning biological cross-border threats to health at three different levels:

- 1) organisational preparedness at ECDC,
- 2) support to the European Commission on EU-level preparedness against biological cross-border health threats, and
- 3) support to national planning and capacity-building to effectively react to biological cross-border health threats.

The report gives a comprehensive overview of the activities reported in relation to Decision 1082/2013 in each of the years under discussion. For example, in 2014 ECDC provided technical support to the European Commission on the development of a reporting template under Article 4 (Preparedness) of Decision 1082/2013/EU and in 2015, the Centre carried out the analysis of the reported information required by Art. 4 of Decision 1082/2013/EU.

Although there was a high level of awareness and use of ECDC's outputs in relation to Decision 1082/2013 amongst consulted stakeholders, only a limited (either ECDC staff or members of the HSC) were aware that these are additional to ECDC's original mandate and stemming concretely from Decision 1082/2013.

As discussed in detail under the Effectiveness, ECDC is found to effectively use its services to respond to current and emerging threats to health stemming from communicable diseases. The EPIS, RRAs as well as other regular and ad-hoc activities in this area were found to be effective at both output and outcome level.

ECDC's role in the Health Security Committee was also assessed positively by consulted stakeholders familiar with it, who pointed to the value provided by ECDC in preparing and discussing topics on infectious diseases for the HSC and thus contributed to decision-making at EU level. ECDC is part of all HSC meetings<sup>353</sup>, and as discussed under SEQ 4.2 the Rapid Risk Assessments prepared by the Centre are well received, although there is noted room for improvement. Issues with the timeliness of RRA's and lack of information on how Member States follow-up on the recommendations and guidance provided were identified as factors limiting the usefulness of RRAs. Furthermore, some of the recommendations provided in RRAs are not considered to be sufficiently tailored to the national context and feasible to undertake in the short-term timespan available for responding to the threat.

Guidance provided by ECDC on preparedness for emerging threats is also highlighted as a positive example of the value provided by the Centre. For example, as discussed under EQ 9.2, 30 EU/EEA Member States have used the guide on preparedness activities in relation to the Zika virus<sup>354</sup> at national level.

**In summary, there is awareness and satisfaction with the activities carried out by ECDC under its mandate to support the implementation of Decision 1082/2013. The role played by the Centre in the Health Security Committee, in particular through the provision of RRAs prepared, was considered relevant and useful for consulted stakeholders, including those external to the Committee.**

# Evaluation of Added value

## **EQ 11: What has ECDC achieved that could not have been achieved by the Member States themselves, the European Commission, the European Parliament or international organisations?**

A robust measurement of the added value of ECDC in the area of health security (EQ 11.1) as well as the communicable disease control (EQ 11.2) and improving health (EQ 11.5) would require the existence of a comprehensive set of pre-defined monitoring indicators and historical data that are used to measure a commonly agreed upon definition of impacts. The current KPIs used by ECDC are output-focus and not suitable for such an assessment. At present, there are also no robust international indicator sets that would allow for the benchmarking of the Centre's performance. WHO is currently rolling out its WHO Impact Framework, which includes a health emergencies protection index that will measure progress towards the target of 1 billion more people worldwide having better protected from health emergencies based on three tracer indicators that capture activities to prepare for, prevent, and detect and respond to health emergencies.<sup>355</sup> However, from the available information on the indicator, it is not clear how it will provide evidence of WHO's impact per se.

The same constraint holds for attributing to ECDC's work any indicators on the state of public health in the EU. Hence, for this evaluation, the approach is that of offering evidence of contribution, through an approach inspired by that of the "process-tracing", a method frequently employed in public policy evaluations.<sup>356</sup> Through a combination of output and outcome level indicators, defined in line with the intervention logic for the Centre, and assessed under the analysis of effectiveness, impact, utility and further on in added value we aimed to verify the presence of the series of interlocking events or facts that together can explain how the Centre is able to contribute to the achievement of its objectives.

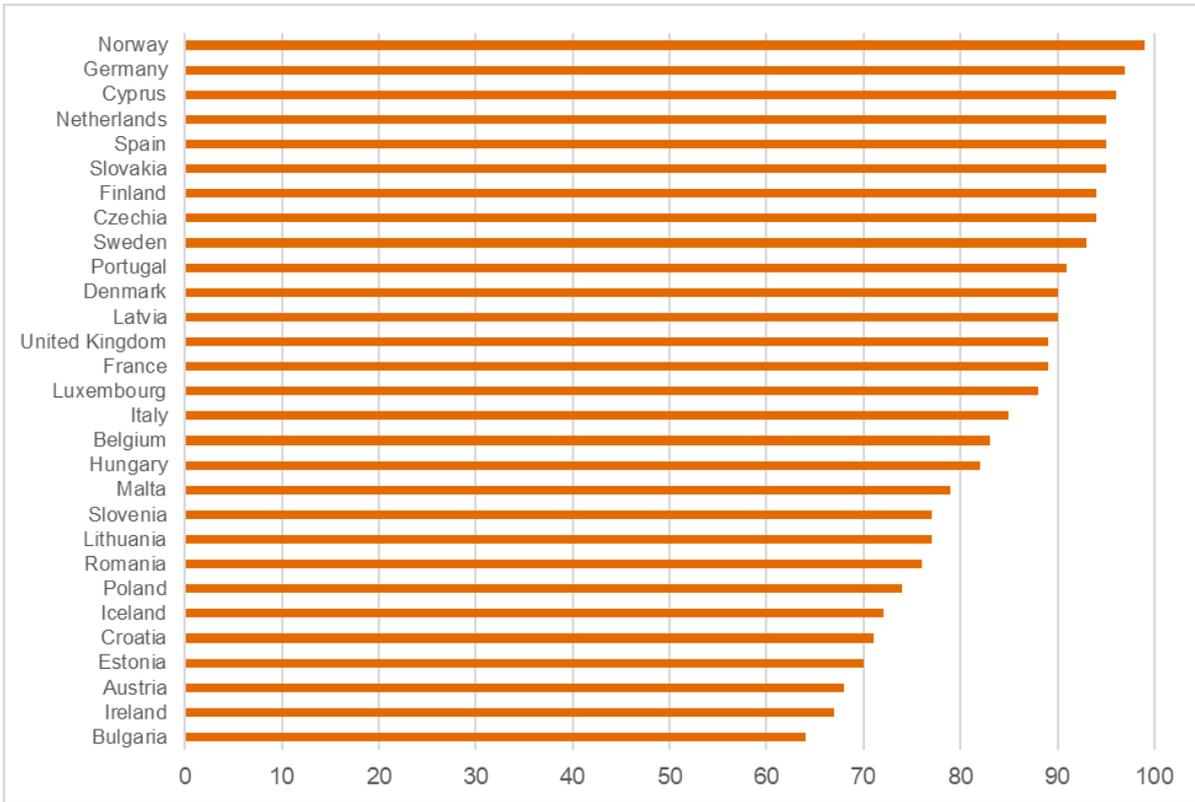
### *SEQ 11.1 To what extent has ECDC provided added value in enhancing the health security for EU citizens from potential cross-border threats to health?*

As already noted, there is no established reference framework for measuring the contribution of ECDC to enhancing health security for EU citizens from potential cross-border threats to health. The existing WHO IHR index for public health capacities is however a relevant indicator of the performance of EU countries against their IHR obligations, which aims to ensure countries' preparedness for public health events of international concern. As can be seen from the following figure, in 2017 the picture among EU/EEA Member States was quite varied – with top performers (Norway, Germany, Cyprus) considerably outperforming the bottom tier (Bulgaria, Ireland, Austria) by more than 30 points.

The median index score for the EU/EEA countries was 86.5, which is at the low end of performance when benchmarked against non-EU/EEA OECD countries (see Figure 47, Figure 48). However, the figure also shows that the median score of EU/EEA countries has increased substantially, by 19% between 2011 and 2017, the second highest rate of increase in the sample (after Mexico, with 45%).

Evidence of ECDC's added value in enhancing the health security for EU citizens from potential cross-border threats to health can be found throughout the evaluation analysis presented so far. Under the Effectiveness section, ECDC outputs such as TESSy and RRAs were highlighted for providing a common basis for enabling a coordinated response to outbreaks representing a cross-border threat to health<sup>357</sup>. In addition, the Centre's technical assistance and coordination activities during outbreaks has proven effective in responding to cross-border health threats, especially in relation to the outbreak of Ebola in Guinea<sup>358</sup>. Furthermore, preliminary findings from the ECDC Fellowship Programme Evaluation provides evidence of its added value in establishing a network of public health professionals with a common language that strengthen surveillance networks and processes in the EU and supports cross-border cooperation. These ECDC activities provided added value as they directly address cross-border health threats and therefore contributed to improved health security for EU citizens.

Figure 47 Performance of the EU/EEA countries on the WHO IHR index for public health capacities



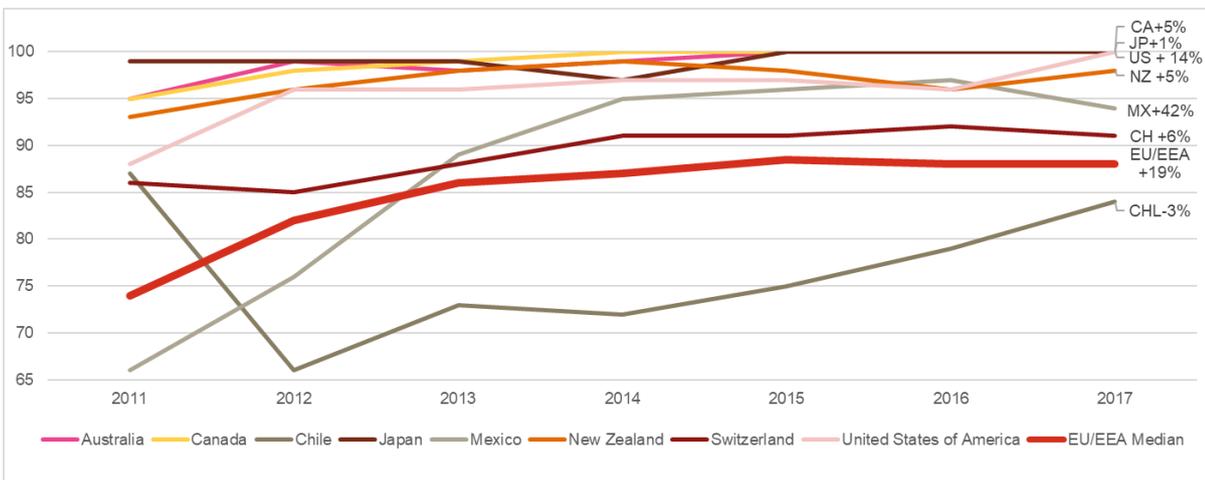
Source: WHO, World Health Statistics data visualizations dashboard

Notes: (1) Data is not available for Lichtenstein and Greece

(2) Data for 2018 for Bulgaria, Ireland, Italy and Finland (2017 data are not available).

(3) Index based on the average of 13 International Health Regulations core capacity scores, the possible value range equals 0-100.

Figure 48 Performance of the EU/EEA countries on the WHO IHR index for public health capacities EEA/EU Median and other OECD Members, 2010-2018



Source: WHO, World Health Statistics data visualizations dashboard

Notes: (1) The calculation of the median performance of EU/EEA Members does not include data for Lichtenstein and Greece as it is not available. The calculation of the 2017 median value includes data for 2018 for Bulgaria, Ireland, Italy and Finland (2017 data are not available).

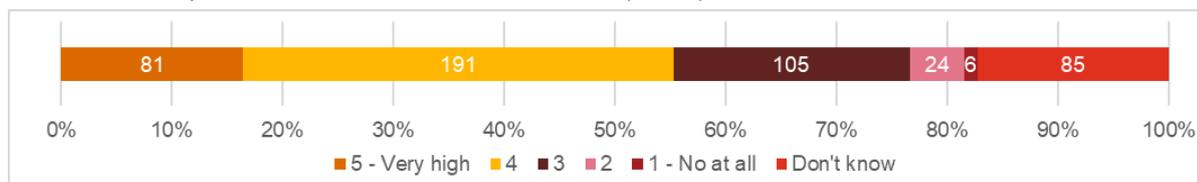
(2) Index based on the average of 13 International Health Regulations core capacity scores, the possible value range equals 0-100. The values for observations on this graph are within 65 to 100 range.

(3) Percentage values indicate change in 2017 compared to 2011.

The positive assessment of ECDC's added value for health security was supported by consulted stakeholders' feedback, with a general consensus that a coordinated response to cross-border health threats would be very difficult to achieve in the absence of an institution like ECDC. Specifically, 55% of survey participants reported that ECDC provides added value in enhancing the health security of EU citizens from potential cross-border threats to health, and rated this as 'high' to 'very high' extent. As further elaborated in EQ 14, 59% of the survey participants specifically

stated that it would not be possible, or only to a limited extent, to have the same EU-wide level of health security for EU citizen from potential cross-border threats to health had ECDC not existed.

Figure 49 To what extent do you think that overall ECDC's activities and their outputs have enhanced the health security for EU citizens from potential cross-border threats to health? (n=492)



Assessment of the added value of ECDC in enhancing the health security of EU citizens amongst the stakeholders consulted varied according to their national contexts. For instance, greater approval was reported by Member States with limited public health resources and smaller Member States. However, stakeholders from Member States that border non-EU countries wanted ECDC to address border regions more, especially with regards to cross-border health threats. These stakeholders argue that this issue should be prioritized more on the agenda of the Centre due to health concerns resulting from the recent migration crisis.

**In summary, ECDC's outputs offer added value for enhancing the health security for EU citizens from potential cross-border threats to health, in particular by facilitating a common approach and coordinated response to threats between Member States. This is supported by strong positive feedback from consulted stakeholders concerning the added value of ECDC's activities.**

*SEQ 11.2 To what extent has ECDC provided added value by producing outputs that improved the ability of Member States to control communicable diseases?*

ECDC's Founding Regulation, sets the priority of protecting and improving human health, under which ECDC's overarching mission is to identify, assess, and communicate current and emerging threats to human health posed by infectious diseases. As part of the analysis of ECDC's added value in allowing Member States to improve health across the EU, we capitalise on available data indicators in the European Core Health Indicators (ECHI) data tool<sup>359</sup>. The tool is the result of collaboration between Member States and the EC over three ECHI projects (1998-2001, 2001-2004, 2005-2008) funded under the EU Health Programmes and which established the first lists of ECHI indicators, aiming to provide comparable health information and knowledge system to monitor health at EU level<sup>360</sup>.

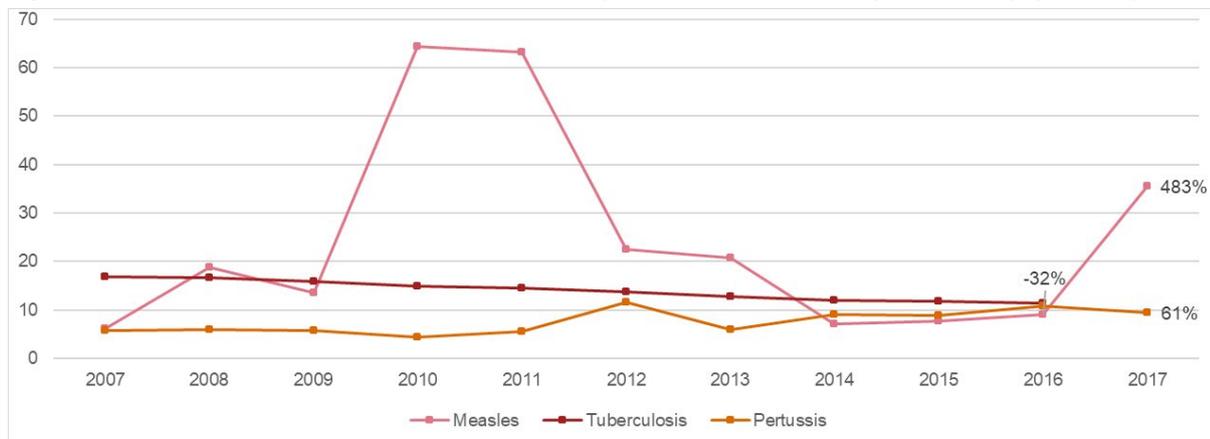
An analysis of ECHI indicators related to the control of communicable diseases provides further insight into the trends in this area at EU/EEA level. As can be seen from Figure 50 and Figure 51, for a number of communicable diseases (tuberculosis, Hepatitis B and C) there is a downward trend in their incidence, which indicates an improved state of health in the EU. The downward trend in the incidence of Hepatitis C infections precedes the widespread use of the new generation directly-acting antiviral agents (DAA) in recent years and therefore reflects the efficacy of non-pharmacologic disease control interventions. Likewise, between 2007-2016 there have been sustained reductions in the incidence of new cases of tuberculosis infections that indicate better disease control. This is at a time when there has been increased migration to the EU from areas of the world with higher prevalence of tuberculosis.

For the same time period there has been an increase in the notification of cases of some infectious diseases, notably measles, pertussis, listeriosis, and Legionnaire's disease. It is not possible to ascribe this to a lack of efficacy of ECDC or national public health activity. The reasons for the rise in incidence differ by pathogen and are multifactorial. For example, waning vaccine-induced population immunity has been attributed to the rise in pertussis cases.<sup>361</sup> There have been increasing number of outbreaks of measles in various countries in the EU, the result of a combination of reduced vaccine coverage, vaccine hesitancy, imported cases from outside the EU and the lingering effect of MMR vaccine fears from the 1990s.<sup>362</sup> The increase in notification of some diseases such as Legionnaire's disease likely reflects a combination of better diagnostic tests, greater testing and better reporting of these notifiable diseases. Paradoxically, the fact that there is accessible intelligence on the incidences of these infectious diseases is a visible demonstration of one of the key outputs of the ECDC.

Another key indicator that is collected and reported on by ECDC is the incidence of healthcare associated infections (HAIs), an issue that has been an ECDC priority. The output of this workstream provides an overview of HAIs, as well as enables comparisons by procedure and by country, that allows issues to be identified and targeted for action. According to the 2018 State of Health in the EU report, on average across EU countries (weighted), 5.5% of patients acquired an infection during their hospital stay in 2016-17. At the same time, 20% of healthcare-associated infections are considered to be avoidable through better infection prevention and control.<sup>363</sup> As can be seen from Figure 52, the

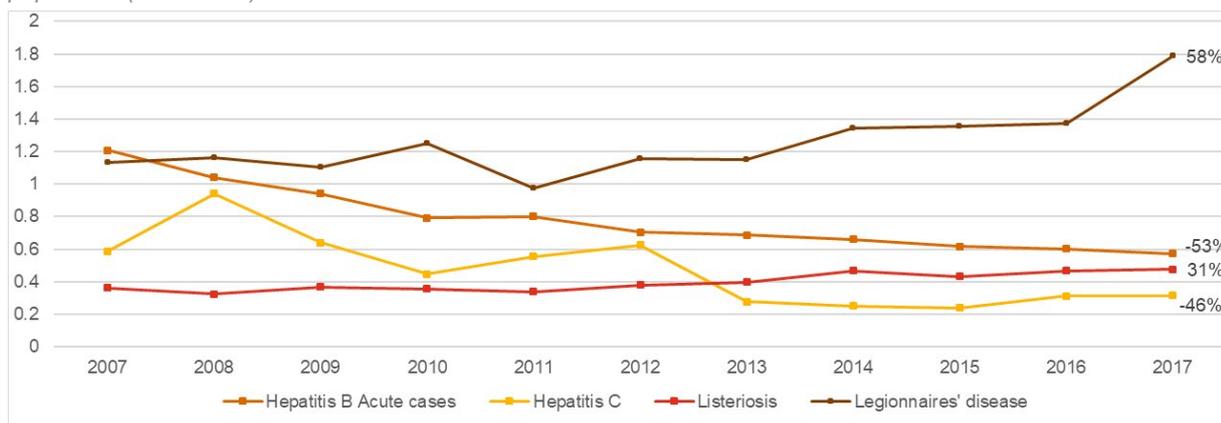
in-hospital surgical site infections incidence density for all type of procedures reported to ECDC, apart from cholecystectomy, has decreased substantially between 2008 and 2016. The active monitoring of HAIs for these procedures undoubtedly will have assisted efforts to tackle them.

Figure 50 Notification rate of measles, tuberculosis and pertussis in the EU/EEA, per 100,000 population (2007-2017)



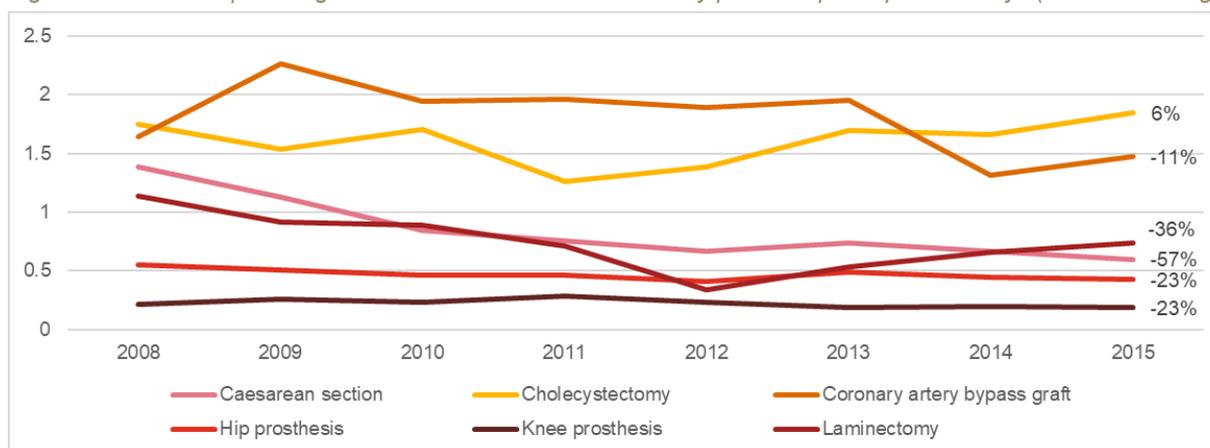
Source: ECDC Surveillance Atlas of Communicable Diseases  
 Note: Percentage values indicate change in 2017 compared to 2007.

Figure 51 Notification rate of Hepatitis B, Hepatitis C, Listeriosis and Legionnaires' disease in the EU/EEA, per 100,000 population (2007-2017)



Source: ECDC Surveillance Atlas of Communicable Diseases  
 Note: Percentage values indicate change in 2017 compared to 2007.

Figure 52 HAI In-hospital surgical site infections incidence density per 1000 post-operative days (EU/EEA average)

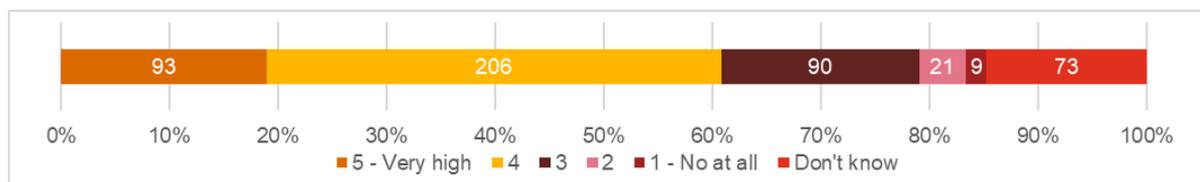


Source: ECDC Surveillance Atlas of Communicable Diseases; Note: Percentage values indicate change in 2008 compared to 2015.

Results throughout the evaluation, as well as stakeholder feedback indicate that ECDC outputs have improved Member States' ability to control communicable diseases. Specifically, findings under the Effectiveness section highlighted the strong added value of ECDC's epidemic intelligence activities for Member States and is further evidenced by the

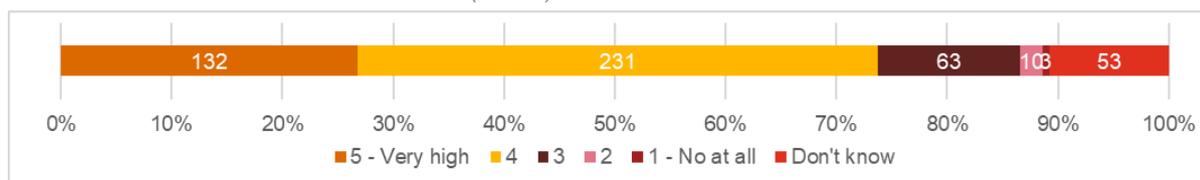
frequent use of their outputs to coordinate and inform response measures<sup>364</sup>. Secondly, ECDC activities and outputs have successfully strengthened cross-border networks of public health professionals and raised awareness of cross-border threats, further strengthening the surveillance and control of communicable diseases<sup>365</sup>. This is supported by stakeholder feedback with 61% of respondents stating that the Centre’s activities and outputs had improved their Member State’s ability to control communicable diseases to a ‘high’ or ‘very high’ extent. Very few (17%) thought it would be possible to have the same level of national communicable disease control capability across the EU in the Centre’s absence.

Figure 53 To what extent do you think that overall ECDC’s activities and their outputs have improved the ability of Member States by controlling communicable diseases? (n=492)



These findings complement the survey results displayed in Figure 54 which show that a strong majority (74%) of stakeholders believe that its activities and outputs have improved the level and quality of information at Member State and EU level to a “high” or “very high” extent. As discussed under EQ 9.2, there is evidence of the use of outputs of the Centre in different areas of its activity to inform decision-making in all EU/EEA Member States. The Centre’s outputs are also routinely shared with relevant stakeholders at country level.

Figure 54 To what extent do you think that overall ECDC’s activities and their outputs have improved the level and quality of information at Member State and EU level: (n=492)



**In conclusion, the Centre’s output and activities have improved the ability of Member States to control communicable disease. Particularly, their epidemic intelligence activities, awareness raising efforts and contribution to cross-border networks of public health professionals have provided key added value in improving Member States’ ability to control communicable diseases.**

**SEQ 11.3 To what extent has ECDC provided added value by improving awareness of antimicrobial resistance, vaccination, vector borne diseases in particular?**

As discussed under SEQ4.8, one of ECDC’s objectives over the reference period was to become the “main source of information on global communicable disease threats for European public health and healthcare professionals” by 2020<sup>366</sup>A key element of this is supporting Member States in their communication activities and awareness-raising around relevant topics, including the key priority areas of antimicrobial resistance, vaccination and vector-borne diseases. These topics constitute the focus of the following analysis.

**Antimicrobial Resistance**

Antimicrobial resistance (AMR) and healthcare associated infections (HAI) pose a pervasive and major public health threat within the EU as well as globally. Given the nature of the threat, traditional interventions are not enough to effectively prevent and control the threat posed by AMR, with a greater need for behaviour based interventions and awareness raising, as highlighted in the 2017 European One Health Action Plan AMR.<sup>367</sup> As such, AMR constitutes one of the ECDC’s key areas of focus over the reference period and the Centre commits to support national authorities and other stakeholders awareness-raising and prevention efforts to tackle AMR.<sup>368</sup>

An analysis of the citations of ECDC publications related to AMR and HAI indicate a high usage by its stakeholders. The following table presents ECDC publications related to AMR and HAI from the reference period with the highest citation count.<sup>369</sup> The results indicate that the annual reports from the Centre’s European Antimicrobial Resistance Surveillance Network (EARS-Net) are the most valuable information outputs for its stakeholders in this domain.

Table 7 Citation counts ECDC AMR and HAI publications

Description	Nr citations
PPS-1 report 2013	324
EARS-Net Annual Report 2013	152
EARS-Net Annual Report 2014	148
Data from the ECDC Interactive database (AMR) – EARS-Net interactive database	143
The ARHAI chapter of the 2014 AER	100
JIACRA reports where EARS-Net data is published 2015	70

Source: ECDC

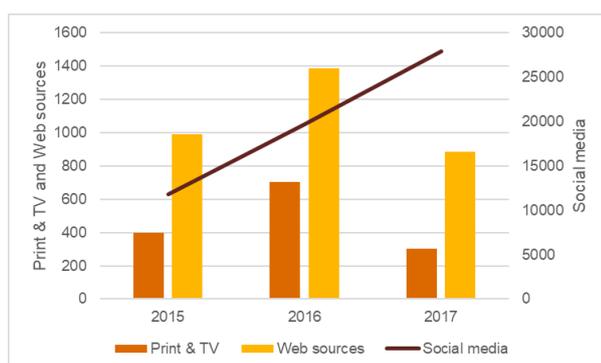
The EPIS-AMR-HAI is a platform which all EU/EEA Member States have access to and which supports the rapid reporting and dissemination of information related to bacterial pathogens with previously unseen or emerging AMR and HAI.<sup>370</sup>

Figure 55 EPIS-AMR-HAI: number of users, sessions and page views



Source: ECDC ICT Report 2018: Use of IT Products

Figure 56 ECDC AMR mentions by communication channel 2015 - 2017



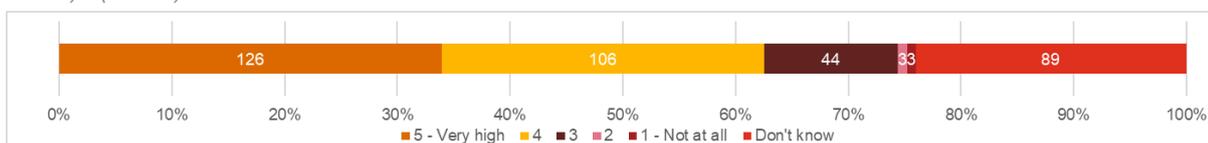
Source: ECDC yearly reports on media monitoring 2015-2017

Social media data analysis (Figure 56) shows that AMR is the topic in which ECDC had the highest communication impact between 2015 and 2017, especially due to European Antibiotic Awareness Day (EAAD). AMR-related coverage in social media increased exponentially over the evaluation timeframe and was dominated by the annual EAAD which was the most frequently used hashtag in 2015 and 2016 and accounted for 45% of total social media volume in 2015, 39% in 2016 and 52% in 2017. The highest volume of print and online coverage was recorded in Germany, Spain and Italy between 2015 and 2017.

These findings are in line with the analysis under SEQ 1.2, which highlighted the relevance of the Centre's activities in this area and particularly the awareness-raising event EAAD. Stakeholder feedback also confirmed this (Figure 57) with a high degree of approval for the effectiveness of the Centre's

communication activities on AMR and in particular the EAAD. This in turn translated into a high degree of support for the Centre's contribution to raising awareness of the topic.

Figure 57 To what extent are ECDC's communication activities on the topic of antimicrobial resistance effective (timely and useful)? (n=371)



Multiple stakeholders from various Member States were able to provide examples of ECDC information outputs and the EAAD for helping to promote AMR in the national political sphere as well as amongst the general public. For example, a stakeholder in France reported that they used ECDC scientific publications<sup>371</sup>, as well as consumption and resistance reports to promote AMR as a major public health problem in France and to support the political decisions that go with it. The French Ministry of Health and national Learned Societies reported that they used ECDC information in the establishment of an AMR Task force in France. Another stakeholder from the UK also highlighted how ECDC's information outputs related to AMR were used to inform the national Antibiotic Guardian Campaign. This is confirmed by the information available on the Antibiotic Guardian website which promoted the EAAD toolkits and resources to run local campaigns in England, Scotland, Wales and Northern Ireland.<sup>372</sup>

Concerning the general public, ECDC's EAAD activities were considered key in having increased awareness around the topic of AMR through supporting national campaigns across the region. The event was first established in 2008 and, as discussed previously, has seen increasing success each year. The 2017 EAAD was the Centre's most successful to date, with 40 participating countries and 154 participants from more than 50 professional organisations taking part in EAAD activities including journalists, representatives from almost all EU Member States, and institutional partners from the European Commission, WHO/Europe, EFSA and EMA. In addition, evaluation reports<sup>373</sup> disseminated to Member States by the Centre to gather information on the effectiveness of the initiative each year support the findings concerning its success. Specifically, an average of 80% of respondents to the evaluations conducted over the reference period rated the event as "helpful" or "very helpful, with an upwards trend over the timeframe. In addition, an average of 21 countries declared that there was a change in their country that could be attributed to the momentum created by EAAD<sup>374</sup>. This is a particularly positive result given that one of the recommendations of the second external evaluation was for the Centre to increase its perceived added value by more clearly focusing on activities with a European dimension such as the EAAD.<sup>375</sup>

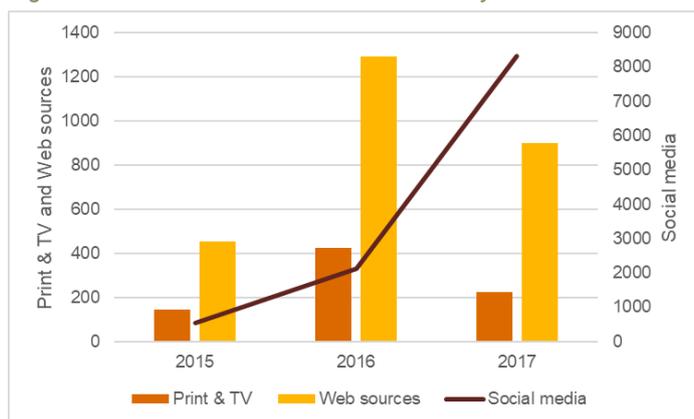
Feedback from the stakeholders consulted highlighted ECDC's communication services as key for the event's success. Specifically, many stakeholders working in the area of AMR reported using ECDC's communication materials as a basis and input for dissemination activities at national and regional levels.<sup>376</sup> Furthermore, there was appreciation for the communication structure, with the Centre providing harmonised information which could then be adapted to local needs. Several stakeholders reported that in the absence of the Centre they did not believe they would be able to prepare the same volume of information.

## Vaccination

The rising threat of vaccine hesitancy in the EU meant that vaccination and vaccine-preventable diseases (VPD) were also high on the Centre's priorities over the evaluation period. As with AMR, the nature of this public health threat highlights the greater importance of the Centre's contribution to health communication and awareness-raising in this area. Evidence under Relevance, Impact and Effectiveness supports the added value of the Centre in improving awareness of the topic of vaccination at both the national and EU-level. Findings indicated the ECDC outputs have facilitated discussions on vaccination at the European level and served as input for national policy making (see SEQ1.2). An analysis of the vaccine scheduler tool under SEQ 4.5 evidenced its effectiveness for the collection and dissemination of data. As was the case with the EPIS-AMR-HAI platform, the EPIS VPD recorded a somewhat lower level of usage in comparison to other EPIS platforms<sup>377</sup>, although this may be a result of the varied levels of participation in the different EPIS networks, as discussed under SEQ 4.6. SEQ 7.2 shows that the Centre's studies in the surveys have recorded increasing demand from Member States over the evaluation period.

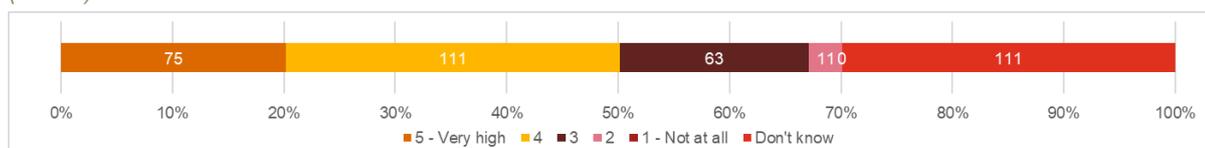
Social media analysis shows that vaccine-related issues remained one of the top 3 topics that ECDC had the highest communication impact for over 2015-2017.<sup>378</sup> As shown in Figure 58, ECDC mentions on the topic in social media increased over the evaluation timeframe, with a significant growth between 2016 and 2017. Vaccine-related mentions of ECDC constituted 6% of total social media coverage and 15% of traditional media coverage in 2015. This decreased to 4% for social media coverage but increased to 21.5% (and 19.7% for immunization) for traditional media coverage in 2016. In 2017, vaccines accounted for 21% of all coverage, fuelled by outbreak topics such as measles and influenza. Other mentions over the period cover various topics including hepatitis, whooping cough, the Zika virus, European Immunisation week and the refugee situation. The highest volume of print and online coverage was recorded in Spain, Italy, Lithuania and Romania.

Figure 58 ECDC vaccine-related mentions by communication channel 2015 - 2017



These findings are supported by a positive consensus amongst consulted stakeholders concerning the Centre’s communication activities in the area although there is recognition that the Centre’s communication activities are less advanced on this topic than AMR, as evidenced in the media analyses. As shown in Figure 59, half of the survey respondents rated the effectiveness of the Centre’s communication activities on the topic of vaccination as “high” or “very high”. This figure rises to 71% when respondents who answered “don’t know” on this survey question were excluded.

Figure 59 To what extent are ECDC’s communication activities on the topic of vaccination effective (timely and useful)? (n=371)



The stakeholders consulted expressed the opinion that the work of ECDC in this area would naturally be more limited due to role that national specificities play in determining vaccine hesitancy across different MS. As such, it was suggested that ECDC’s added value in this area could be enhanced by focusing its efforts on producing outputs on EU-wide aspects of vaccine hesitancy and which would complement national activities<sup>379</sup>. This is corroborated by evidence that the added value of the Centre’s awareness-raising activities is greatest amongst national policy makers. Specifically, there were multiple examples given of ECDC outputs being used to inform national policy programmes and interventions related to vaccination. There were also many calls for the Centre to do more in terms of identifying new targeted intervention strategies to support national immunisation programs. This is complemented by evidence of their utility in the social media analyses which highlight a number of examples of when ECDC outputs have been used to inform national policy programmes<sup>380</sup>, in line with the findings under SEQ1.2.;

- In 2015, several Spanish sources reported on how the Spanish Society of Public Health and Sanitary Administration used ECDC’s 2015 report on chickenpox vaccination as part of its efforts to persuade the Spanish Ministry of Health, Equality and Social Policy to reconsider the inclusion of the varicella vaccine into the national programme.
- In 2016, the Greek and Cypriot media frequently reported on ECDC’s Rapid Risk Assessment and work with Greek authorities with regards to the unexpected refugee flow;
- In 2017, the Pan European Networks reported the President of Vaccines Europe saying that the role of ECDC “*should be strengthened to play a more active role in providing guidelines to member states to inform on future national immunisation policies*”

There was high level of approval for the material provided by ECDC ahead of Immunization week, an event celebrated across the European Region every April to raise awareness of the importance of immunization, which was reported to be helpful for the preparation of communication material at the national level. As noted under EQ 4.8, ECDC’s communication toolkit on immunization is reported to have been used in 29 EU/EEA countries. Finally, the EU added value of ECDC’s outputs was also highlighted in a report from a 2014 ECDC Management Board working group on New Business Models and Financing of Large-scale EU Level Activities.<sup>381</sup>

It was suggested that ECDC’s added value in this area could be enhanced by increasing their support to national authorities to help raise greater awareness amongst their national populations by developing more communication material that could be adapted to the local context. In addition, the 2014 Management Board working group considered that ECDC should have a more clearly recognised role in the immunisation area in Europe.

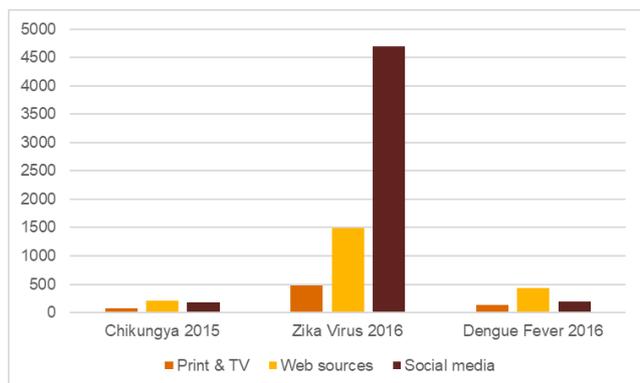
### Vector-borne Diseases

Given the rise in vector-borne disease (VBD) concerns in the EU, the ECDC SMAP 2014-2020 directs the Centre to focus on vector monitoring and enhancing harmonisation on the topic. This was especially driven by recent outbreaks of the Dengue virus, West Nile fever, Chikungunya and Malaria as well as observation of the increased establishment and spread of invasive species of mosquitoes and native ticks. Due to the rarity of these diseases, the Centre identified

its key contribution in this area as ECDC's day-to-day contribution in facilitating the sharing of knowledge among MS, providing timely information and contributing to preparedness as well as supporting response in the case of an outbreak<sup>382</sup>. This nuance should be taken into consideration as the nature of the Centre's awareness-raising activities in this area would be different in comparison to the previous two areas.

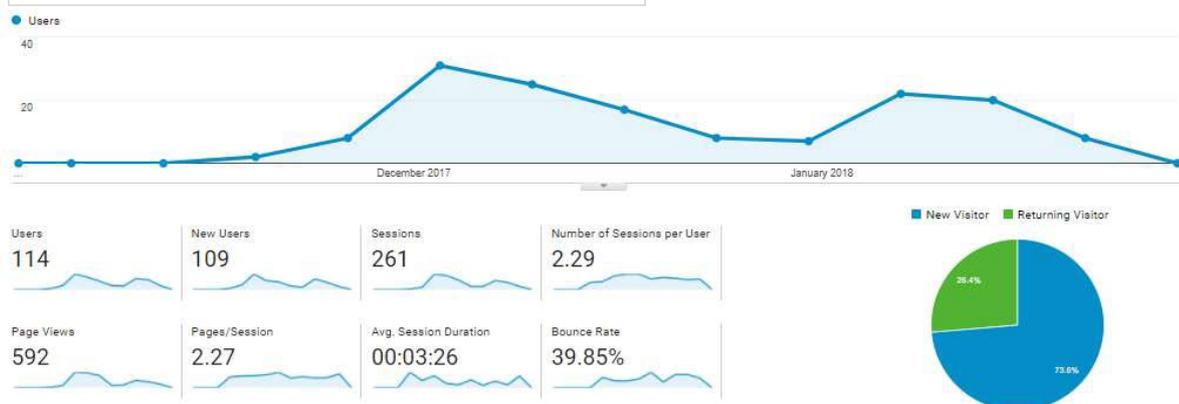
ECDC media coverage was recorded in relation to each of the key vector-borne disease (VBD) outbreaks that occurred over the reference period. As can be seen in the following figure, the Chikungunya, Zika and Dengue outbreaks in 2015 and 2016 elicited media coverage of ECDC, although there is a tighter correlation between ECDC publications and traditional media than social media on this topic. The Centre's impact was clearly greatest in relation to the Zika outbreak, in line with the degree of general media attention around the outbreak. Specifically, at the peak of the outbreak in 2016, references to the Centre in relation to the virus constituted 11% of the total social media coverage. In addition, 1,971 articles related to Zika that made reference to ECDC were published, making it the number One health topic for 2016. This is in comparison to the 996 articles on HIV/AIDs that was the number One health topic in 2015. The most commonly referred to output across these outbreaks were the Centre's RRAs.

Figure 60 ECDC mentions by communication channel during VBD outbreaks 2015 - 2016



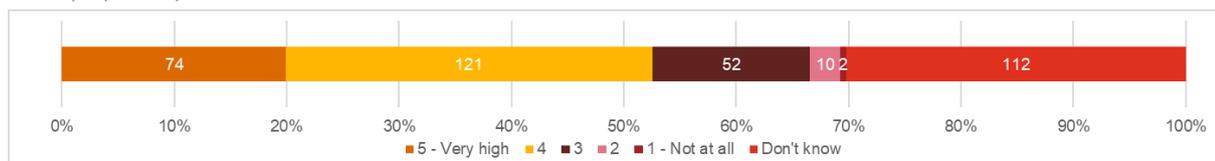
The findings under effectiveness related to ECDC's outputs suggested that the Centre's outputs related to VBDs were considered to be some of the most effective by stakeholders. Its tools for monitoring and tracking vector borne diseases (including infographics and maps) as well as guidelines produced in response to the Zika virus outbreak were highlighted (please see SEQ4.5). As shown in the figure below, these findings are corroborated by a high level of usage of the ECDC tool VectorNet since its implementation in 2016<sup>383</sup>.

Figure 61 VectorNet: Number of users, sessions and page views



This observation is further supported by consulted stakeholder feedback, for which there was a positive consensus concerning ECDC's communication activities on the topic. As seen in Figure 62, more than half (53%) of survey respondents rated the effectiveness of the Centre's communication activities on the topic of vector borne diseases to be "high" or "very high". This figure rises to 75% when respondents who answered "don't know" to the question were excluded. As with the findings on vaccination, feedback from consulted stakeholders indicate that the added value of ECDC's activities in raising awareness in this area are more exclusively concentrated on national policy makers. Several consulted stakeholders cited the use of ECDC outputs in feeding policy discussions and developing recommendations. In another instance, the most frequently cited added value raised under this question was related to the awareness raising the Centre's various outputs had achieved with regards to the surveillance of these diseases. This was especially the case for the Centre's publications, website information, infographics and maps in relation to the outbreaks. Examples of outputs most frequently cited by consulted stakeholders in relation to this question were RRAs, Evidence based guidance and the West Nile virus map.

Figure 62 To what extent are ECDC's communication activities on the topic of vector borne diseases effective (timely and useful)? (n=371)



As discussed under EQ 4.8, ECDC's Communication Toolkit on tick-borne diseases is reported to have been used in 27 EU/EEA Member States.

**In summary, ECDC has successfully provided added value in the form of raised awareness in the areas of AMR, vaccination and vector-borne diseases over the evaluation period. The Centre has had a high communication impact in the area of AMR, especially within the social media sphere. This has contributed to awareness-raising at both the national policy-making level and the EU general public. The EAAD is highlighted as a key success.**

In the area of vaccination, the Centre's communication impact was slightly lower, although it still ranked as one of the top 3 topics. The Centre's added value in raising awareness in this area is more concentrated at the national level and especially policy-makers, and is more contextually-bound due to vaccine hesitancy's link to national specificities.

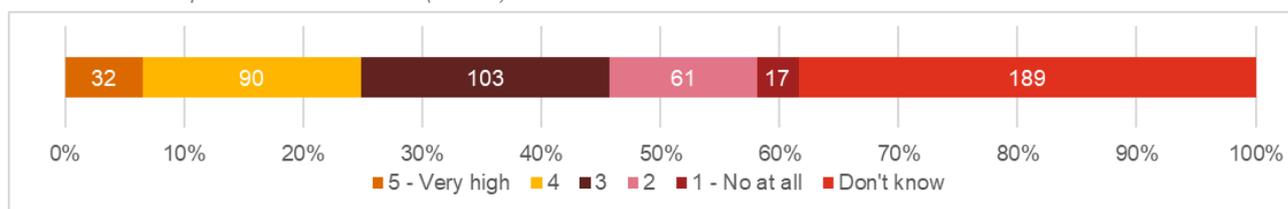
With regards to VBDs, ECDC was successful in raising awareness especially around the times of VBD outbreaks. The Centre's awareness raising impact for this area was most effective amongst national policy makers, as result of its surveillance activities and tools as well as other outputs such as RRAs and evidence-based guidance.

#### SEQ 11.4 To what extent has ECDC provided added value by achieving lower costs due to its intervention?

The central theme of the ECDC SMAP 2014 – 2020 is 'Working together to reduce the burden'. This reflects the current European context in which Member States are facing increasing resource constraints as well as a general reduction in the availability of resources for disease prevention and control activities. The Centre has therefore recognised the importance of reducing the burden on Member States related to the prevention and control of communicable diseases and identifying areas where Member States could achieve more by working together at EU level.

Consulted stakeholders were asked to assess the extent to which they thought ECDC's activities and their outputs have supported Member States/the EU to achieve impacts at lower cost. As seen in Figure 63, 38% of respondents did not know the answer to this question. Of the remaining respondents (i.e. excluding those who answered "don't know"), 40% rated the impact of the Centre's activities and outputs as having lowered costs to a "high" or "very high" extent.

Figure 63 To what extent do you think that overall ECDC's activities and their outputs have supported the Member States/the EU to achieve impacts at lower cost?? (n=492)



As mentioned under SEQ 4.2, a report commissioned by the Netherlands Early Warning Committee (NEWC)<sup>384</sup>, concluded that an exclusive reliance on the ECDC round table reports and the ProMed-mail<sup>385</sup> would maintain a sensitive Early Warning System. In support of this, consulted stakeholders highlighted ECDC's epidemic intelligence activities as adding high value as they reduced the need for Member States to gather the data during the outbreaks and lowered the overall cost to the EU by avoiding a duplication of intelligence gathering activities across Member States. For example, it was reported by multiple stakeholders that the French institute for surveillance had discontinued its international epidemic intelligence activities in 2014 as it was considered that the institute could rely on ECDC's epidemic intelligence to a certain extent in order to reallocate resources to other areas in a context of resources constraints. In Italy, RRAs are usually used to prepare notes for regional health authorities and health workers.<sup>386</sup> The

regular and ad-hoc threat reports produced by the Centre are used in Romania to update travel alerts and vaccination recommendations issued by national authorities.<sup>387</sup>

Other outputs highlighted as reducing the workload of Member States related to the information provided by ECDC as well as the multilateral collaboration it facilitates. Stakeholders highlighted that the Centre’s outputs can be tailored to the national context, thereby relieving the national authorities of the need to invest for the initial production. The most frequently mentioned materials in this context were RRAs, guidance documents and communication information. Finally, the resource savings incurred as a result of the multilateral collaboration between Member States through its platforms (as opposed to the bilateral cooperation which would exist in its absence) were also mentioned by several stakeholders. Nevertheless, one point raised across all stakeholders groups was that the Centre does not perform a sufficient analysis of cost impact of its activities on national authorities and that this would be of considerable added value, especially in the light of the current resource constraints on Member States.<sup>388</sup>

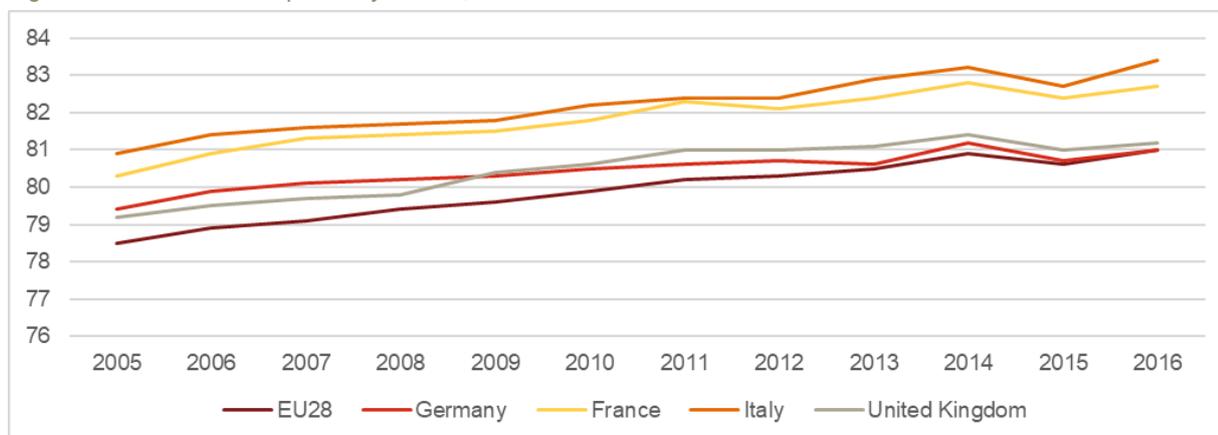
Consulted stakeholders who either did not believe that the Centre had helped Member States achieve impacts at a lower cost, or believed that the costs would be at least the same in the Centre’s absence mostly emphasised the perceived costs related to the time invested in ECDC-related tasks by stakeholders in CCB roles. One stakeholder representing a national PHI indicated that they had calculated that their institute spends on average the equivalent of one full-time equivalent on ECDC-related tasks. When asked how these perceived costs could be reduced by the Centre, a number of stakeholders suggested that cost-savings could be made by improving the efficiency of ECDC meetings and implementing some cost-saving modifications (e.g. shortening the length of meetings, increasing the use of videoconferences, or alternating the location of meetings).

**In summary, there is evidence that a number of the Centre’s activities provide added value by achieving lower costs due to its interventions, particularly by reducing the need for Member States to duplicate their activities and the multilateral collaboration it facilitates. The former was particularly relevant concerning the Centre’s epidemic intelligence activities. Efficiencies are generated also through the synergies gained by the multilateral collaboration between Member States, which is strengthened by the Centre. Nevertheless, there may be value in cost impact analyses to better understand and tailor its activities to national contexts in terms of resource constraints.**

*SEQ 11.5 To what extent has ECDC, through its outputs and results provided added value in allowing (enabling) Member States to improve health across the EU, as reflected in available indicators?*

The 2018 State of Health in the EU report notes that life expectancy in the EU has increased to an average of 81 years across EU countries, as seen in the figure below, with 80% of these expected to be healthy years, i.e. free of disability. Although there are multiple socio-economic determinants of life expectancy and circulatory diseases and cancer are the main causes, communicable diseases are also an important factor. For example, the trends in life expectancy are towards slower gains in several Western European countries in recent years, partly due to periodical increases in mortality among elderly people and in part due to bad flu seasons.<sup>389</sup> In addition, other vaccine preventable diseases such as measles, hepatitis B and vaccine hesitancy were also identified as major threats to the health of European citizens. This highlights the need to continue working on improving vaccination coverage across the EU.

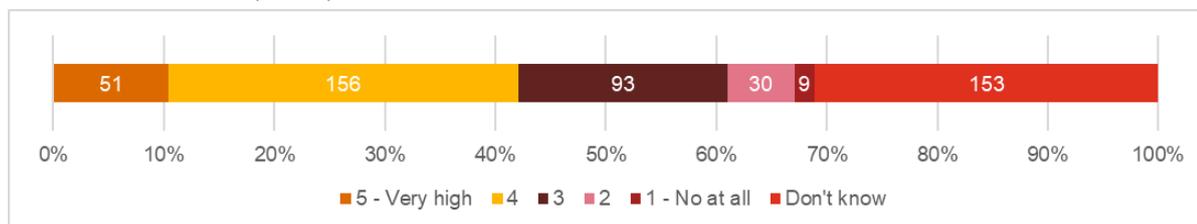
Figure 64 Trends in life expectancy at birth, 2005-16



Source: OECD (2018) Health at a Glance, based on Eurostat data<sup>390</sup>

Survey respondents were also asked to assess the extent to which they thought ECDC's activities and their outputs have allowed Member States to improve health across the EU. As displayed in Figure 65, 42% of the respondents gave a positive assessment.

Figure 65 To what extent do you think that overall ECDC's activities and their outputs have allowed Member States to improve health across the EU? (n=492)



Interviews with stakeholders showed that the cautious assessment of this question can be linked to the relatively small share of the burden of communicable diseases compared to non-communicable diseases. Nevertheless, there was a positive consensus amongst consulted stakeholders that ECDC had brought added value to Member States in improving the health of citizens through their contribution to strengthening the control of communicable diseases (see EQ 4, EQ 7.2, EQ 11.1, EQ 11.2, EQ 11.3).

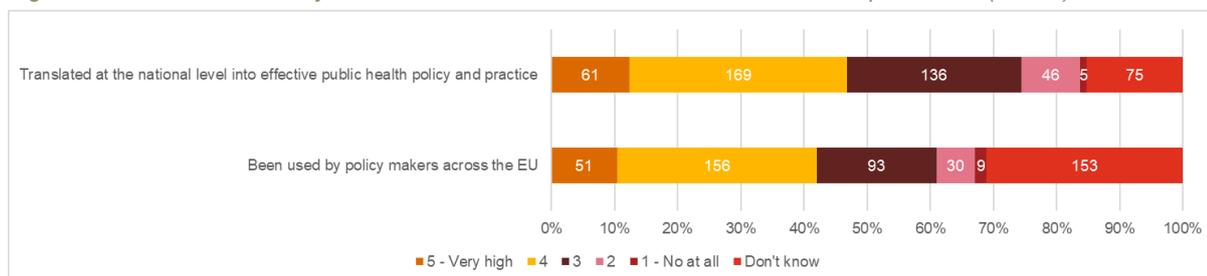
**In summary, ECDC's work and areas of priority are aligned with EU-level health objectives. Feedback from consulted stakeholders indicates that the Centre is considered to have brought added value to Member States by improving health in the EU, primarily via its outputs, awareness raising activities as well as the collaboration and communication it fosters between Member States in the area of communicable diseases.**

*SEQ 11.6 To what extent have ECDC's outputs been used by policy makers across the EU?*

As concluded in the previous analyses, the Centre's outputs serve as useful input and are well regarded by policy makers across the EU both at national and EU-level<sup>391</sup>. There are multiple examples of ECDC outputs, including RRAs, Eurosurveillance publications, surveys, expert opinions and communication toolkits, being used to inform recommendations and in the development of policy documents and regulations across a range of MS<sup>392</sup>. In addition, as displayed in Appendix C, documentary evidence shows that ECDC outputs have served as input to EU policy documents, and ECDC Rapid Risk Assessments were presented in 9 out of 11 HSC Flash Reports from the evaluation period.

This is corroborated by the stakeholder feedback. 61% of survey respondents considered that ECDC outputs had been used by policy makers to a "high" or "very high" extent<sup>393</sup>. 47% reported that ECDC activities and outputs had been translated at the national level into effective public health policy and practice to a "high" or "very high" extent. In line with the above findings, the outputs most frequently mentioned by stakeholders as contributing to national policy-making were the Centre's technical outputs including RRAs and evidence-based guidance. Stakeholders were also able to provide examples of situations or areas in which ECDC outputs had been used in national decision-making processes.

Figure 66 To what extent do you think that overall ECDC's activities and their outputs have: (n=492)



**In conclusion, and corroborating the findings of the previous questions, ECDC activities and outputs have been used by policy makers across the EU, both at national and EU-level. The Centre appears to be held in high regard by national policy makers and its information outputs were frequently used by national PHIs to inform their recommendations to policy makers. The Centre's contribution is particularly relevant to the key public health priority areas of AMR and vaccine hesitancy.**

## **EQ 12: What factors contributed/ hindered ECDC to provide added value at EU level?**

Based on the above analyses and linking to the analysis of effectiveness and impacts, several different influencing factors can be identified for ECDC's added value.

There are two main factors that can be considered to contribute to the Centre's ability to provide additional value by tackling public health issues at EU level rather than at national level. Firstly, the close collaboration between the Centre and CCBs and the involvement of national representatives in the Management and Advisory Forum are considered as effective means of ensuring that the Centre, the Commission and Member States do not work in silos and that they mutually benefit from each other's work.

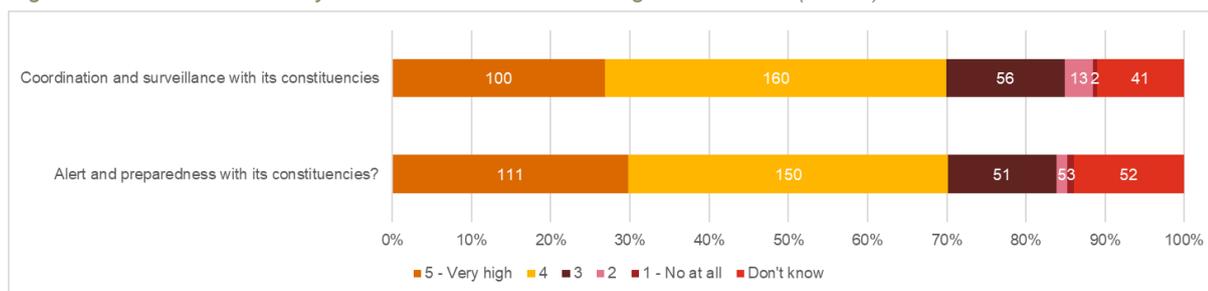
Secondly, with its establishment, ECDC inherited a number of pre-existing expert networks and projects previously supported by the European Commission. The high degree of cooperation taking place in the networks and the established connections through have been identified by consulted stakeholders as an important factor for the Centre's ability to provide added value at the EU level. This is supported by the conclusion of the analysis under SEQ 4.7 concerning the effectiveness of the Centre's network, training and technical assistance activities in promoting the prevention and/or control of communicable diseases.

As regards limiting factors, ECDC's dependence on the inputs of Member States for the fulfilment of its mandated activities can be highlighted as a factor that makes it difficult disentangle the benefits from ECDC's work from these of Member States' work. To some extent it can also be considered to limit its potential added value, since diverging capacity levels among the EU/EEA Member States affect their ability to equally contribute to or benefit from the activities of the Centre (see e.g. analysis of the use of WGS support from the Centre under SEQ 20.1). As a result, in some cases ECDC also faces constraints in how far it can go in terms of e.g. introducing innovation. As noted in SEQ 7.4, Member States have called on ECDC to maintain focus on its core activities, as some Member States face resource constraints for engaging in activities that require the use of costly new technologies and methods.

## **EQ 13: To which extent is the ECDC considered by the European Commission, the Member States and international partners as a model organisation for the coordination and surveillance, alert and preparedness with its constituencies? What factors contribute to this?**

This question is interpreted to refer to the extent that ECDC is used as an example of best practice for the provision of coordination and surveillance, alert and preparedness activities in a multi-country setting<sup>394</sup>. Evidence of ECDC acting as a model organisation for the coordination and surveillance of infectious disease is illustrated by the establishment of the African Centres for Disease Control and Prevention (African CDC). A 2015 article from the WHO Regional Office for Africa indicates that the African Union Commission drew on the expertise and technical assistance of ECDC and other partners including WHO and the China CDC in the process of launching the regional Centre<sup>395</sup> and there has been continued collaboration since its launch in 2017, with ECDC having already hosted the Africa CDC Director<sup>396</sup>. This shows that ECDC is recognised as a model organisation for coordination and surveillance of infectious diseases even in the international sphere. This is supported by the stakeholder feedback. 70% of all respondents agreed it was a model organisation for coordination and surveillance, alert and preparedness, and rated this to a "high" or "very high" extent. The highest support concerning coordination and surveillance was recorded amongst central government representatives. Looking only at the responses of representatives of international organisations and EU institutions, 8 out of 10 respondents gave a positive assessment of this question. With regards to alert and preparedness, the highest support was recorded amongst National Coordinators / CCB Directors. The assessment of this question by representatives of international organisations and EU institutions was slightly less positive – 6 out of the 10 respondents in these categories provided a positive assessment of this question. In line with the findings under SEQ16.3, the Centre's added value in the area of surveillance and alert featured the most prominently. Finally, multiple stakeholders, especially representing Member States which joined the EU in 2004, were able to provide examples of when the Centre had acted as model to inform the processes and methodologies in their national PHIs.

Figure 67 To what extent do you think ECDC is a model organisation for: (n=372)



The majority of comments received from stakeholders who did not consider the Centre as a model organisation in these areas made reference to the US CDC. Specifically, they did not consider ECDC a model organisation for the coordination and surveillance, alert and preparedness of communicable diseases due to its weaker role on the global scene and capacity building outside its borders in comparison to the US CDC. As such, they called for the Centre's role in the international sphere to be strengthened.

**In summary, there is evidence that ECDC is considered a model organisation for coordination and surveillance, alert and preparedness. Examples of the Centre being used as a model organisation can be seen both in the EU and international sphere.**

#### EQ 14: What would be the more likely consequences at the EU level if the Centre had not existed?

To analyse the likely consequences at the EU level if the Centre had not existed, evidence from the Centre's foundation and feedback from consultation activities is first analysed. Secondly, a comparison of how response epidemics take place in parts of the world where there is no comparable regional organisation such as ECDC is conducted, as well as an analysis of how the EU accession Member States' activities in the area of communicable diseases was strengthened by ECDC after their accession.

An analysis of the evidence as to why the Centre was established supports also gives an indication of the added value the Centre brings to the EU-level in the area of communicable diseases, by allowing for a comparison of the status quo with the baseline scenario in which the Centre's work was being performed by other actors. In 1999, Decision No 2119/98/EC of the European Parliament and of the Council created a legal framework to promote cooperation between Member States for the surveillance of communicable diseases and strengthening the coordination between them for monitoring outbreaks of communicable diseases.<sup>397</sup> This consisted of ad hoc cooperation between Member States under the format of a Communicable Diseases Network, which incorporated dedicated surveillance networks amongst Member states in different areas.<sup>398</sup>

However, in 2002 it was recognised that there was a need to work more effectively on the control and prevention of communicable diseases within the EU. The need for strengthened EU-level activities in the field was particularly accentuated by an international health crisis in 2001, in which the Severe Acute Respiratory Syndrome virus (SARS) spread from China to Europe, the Americas, and Asia in just in a few weeks. The event showed that the EU and Member States had a system in place to monitor the spread of the SARS virus but no system for advising on or EU-wide measures to contain it, highlighting the weaknesses associated with a lack of appropriate co-ordination structures regionally and internationally.<sup>399</sup> In addition, the SARS, as well as other outbreak events at the time, illustrated that a small communicable disease outbreak in one country can become an international public health threat if national control measures are ineffective. The European Economic and Social Committee noted that this as a point in need of urgent addressing within the EU, which covered countries with modern structures and appropriate facilities, whereas others are much less well prepared, and that such divergences were set to worsen with EU enlargement.<sup>400</sup>

In combination with this, two external evaluations of the Communicable Diseases Network in 2000 and 2001 highlighted weaknesses in the functioning of the existing network structure. For instance, the experience of some outbreaks had demonstrated the possibility for duplication of efforts between different Member States.<sup>401</sup> In addition, that the ad hoc nature of the networks would restrict the future evolution of the EU's capacity to react swiftly to epidemics and was not conducive to long term planning, allowing for potential fragmentation in the work of the different networks. As such it was identified that co-ordinating and integrating the networks into a Centre would bring multiple advantages, including better coherence amongst the networks, sustainable funding, better technical steering and more effective responses to outbreaks via immediate data access and retrieval, increased visibility (of the disease networks and the community's role, and better protection of confidentiality of data.<sup>402</sup>

As such, it became clear that coordinated action at EU-level was necessary. In 2002, the State Epidemiologists from the Member States as well as the Network Committee gave their view on the future of the surveillance of communicable diseases at the European Union level and favoured the creation of an EU-level coordinating centre. An ensuing 2003 European Commission proposal concluded that the creation of a European Centre for Disease Prevention and Control was the appropriate solution, ensuring the efficient networking, pooling of Member States' scientific expertise, and facilitating more effective preparedness planning, thereby strengthening the EU capacity to react to future health threats.<sup>403</sup> The establishment of the Centre was considered necessary and received widespread support from relevant actors, including the Council of the European Union, the European Parliament, the European Commission, the European Economic and Social Committee, Member States, national and international NGOs and academic institutions.<sup>404</sup>

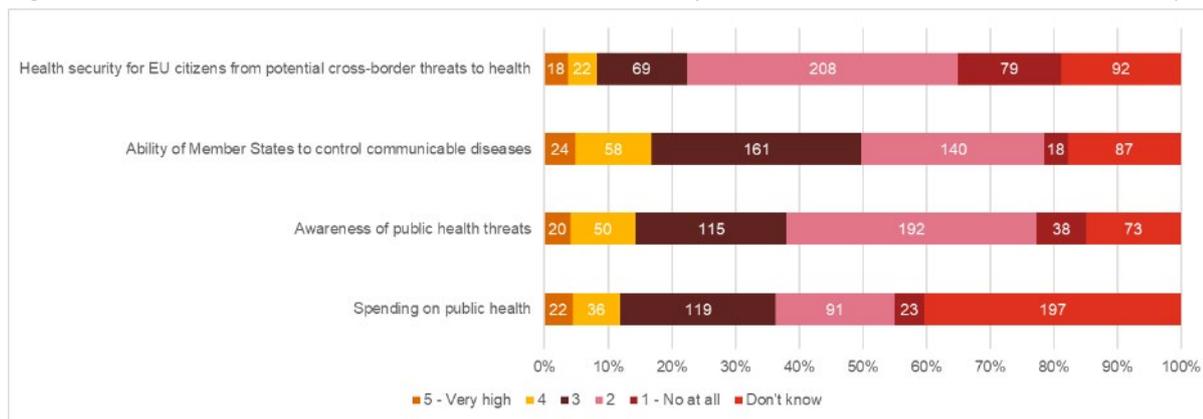
Evidence from throughout the evaluation supports that the Centre has provided added value at the EU-level in comparison to the situation prior to its establishment, by bringing sustainability, coordination and professionalization to the structure which existed before its establishment. The analysis under Effectiveness and SEQ 16.3 demonstrated that the Centre and its activities have promoted harmonization and coordination amongst Member States in the areas of surveillance and alert, as well as a coordinated approach to the response to outbreaks of communicable diseases in the EU. The Centre has also effectively strengthened the public health capacity of countries across (see e.g. SEQ 7.2) the EU, with evidence of its contribution to strengthening the capacity of countries with weaker public health capacity, including the accession countries as discussed in the ensuing analysis. In addition, the Centre has proven to be particularly successful in promoting an effective response to outbreaks even externally to the EU – exemplified by its particular success in supporting the 2015 Ebola outbreak in Africa (see SEQ 4.2 and 4.3).

Another clear example of the EU added value brought by the Centre in comparison to the situation before its establishment can be found in the SARS virus. As previously discussed, an outbreak of SARS in 2001 highlighted the weakness of the then European system for advising on or implementing EU-wide measures to contain it, and the identified weaknesses associated with a lack of appropriate co-ordination structures regionally and internationally was a strong catalyst for the establishment of ECDC. Since its establishment, the surveillance and collection of data on the SARS virus has come under its activities. The Centre produces annual epidemiological reports on the disease, and has produced multiple RRAs and a technical guidance document on the virus. In addition, it can be discerned that the consolidation of the previously dispersed disease networks under the Centre's coordination induced efficiency gains as a result of the transfer of their various databases, historical data and website content. In addition, that there was harmonisation from the establishment of variables to be collected in TESSy and the promotion of new case definitions.<sup>405</sup>

Beyond its contribution to ensuring a more harmonised and coordinated approach in the field of communicable diseases and increasing public health capacities across Member States, the Centre's activities and outputs also brought added value to the EU in terms of strengthening its defences against communicable diseases in other ways. For instance, the Centre implemented an initiative to complement the traditional indicator-based surveillance, using epidemic intelligence as an early detection and warning system. The proposed framework also became the basis for Rapid Risk Assessments.<sup>406</sup> As discussed under the analysis of the Centre's Effectiveness, the Centre's epidemic intelligence activities proved particularly relevant and effective for Member States, and Rapid Risk Assessments one of its most appreciated outputs. In addition, the Centre's outputs are found to have improved the level and quality of information in Member States, and to have increased the effectiveness of public health policy and practices in different areas of work (see EQ 9), thus enabling an effective EU-wide response in line with the foreseen benefits before its establishment.<sup>407</sup>

The above was supported by consulted stakeholders who were asked to rate the relative level of accomplishment of selected indicators on current impacts in comparison to a counterfactual scenario in which the Centre had not existed, and the results indicate strong added value of its activities in improving health security for EU citizens by strengthening the control of communicable diseases. As shown in the following figure, only 9% of respondents considered that it would be possible to have the same level of health security for EU citizens from potential cross-border threats in the Centre's absence. Similarly, concerning awareness of public health threats and the ability of Member States to control communicable diseases, 14% and 17% of respondents stated that it would be possible to have the same level in the Centre's absence respectively. 12% of respondents considered that it would be possible to have the same level of spending on public health in the Centre's absence, although this rises to 20% when excluding the 40% of respondents who answered "don't know".

Figure 68 Had the Centre not existed, to what extent would it be possible to have the same EU-wide level of: (n=488)



### Latin America and Africa

An analysis of how response to epidemics takes place in parts of the world where there are no regional organisations that provide support to surveillance and response the way that ECDC does also provides a relevant framework for analysing the added value of the Centre. Africa and Latin America and Africa were taken as relevant cases for this analysis. Firstly, neither hosted a regional Centre for Disease and Control (CDC) over the evaluation period, and their similar set-up to the EU in terms of a regional cooperation allowed for a more robust comparison with ECDC than a comparison with an individual country. Secondly, communicable disease outbreaks occurred in both regions over the reference period, affording the opportunity for case studies to compare their capacity for response.

Latin America currently hosts no regional Centre for Disease and Control and the regional response to a wide-spread epidemic of Zika fever broke out in Latin America in early 2015 highlighted the added value that a regional Centre such as ECDC can bring in coordinating the response to a communicable disease outbreak. Specifically, the regional response to the outbreak exposed weak harmonisation of the technical expertise between countries in Latin America and the Caribbean, which created the necessity for a high degree of third party involvement in coordinating the response.<sup>408</sup> Furthermore, the absence of such a regional body, the Inter-American Bank and the International Association of National Public Health Institutes had to take the initiative to convene the directors and heads from over 20 Zika affected country national public health institutes, as well as partnering organisations, in order to discuss the social and economic impacts in the affected regions.<sup>409</sup> This case was highlighted by a number of consulted stakeholders as demonstrating by analogy the added value of ECDC for the EU in facilitating coordination, pooling of technical expertise, promotion of the harmonisation of standards and definitions, as well as training.<sup>410</sup>

Another relevant comparison can be drawn with developments in the field of communicable diseases in Africa, with the outbreak of Ebola and consequent establishment of the Africa CDC over the evaluation timeframe. Specifically, the regional response to the 2015 Ebola outbreak emphasised the need for greater regional coordination and the absence of a regional CDC was considered a factor that hindered the coordination of the response to the outbreak<sup>411</sup>. Thereafter, the Africa CDC was established in 2017 with the technical assistance of various actors, including ECDC. The decision to found the Centre taken by African Heads of State and Government<sup>412</sup> was based on the recognition that there was a need for a regional-level CDC to conduct research, serve as a platform for knowledge-sharing and to build capacity for the response to public health threats.

### 2009 Influenza pandemic<sup>413</sup>

Another case study is the H1N1 Influenza pandemic in 2009. The ECDC response to which was analysed and contrasted with that of the WHO in a recent policy analysis by Versluis, van Asselt and Kim (2019).<sup>414</sup> The H1N1 influenza epidemic first emerged in North America in 2009, lasting a little over a year until August 2020, when the WHO announced its official end. The event was global, affecting more than 214 countries and causing close to 18,000 deaths.

The policy analysis by Versluis, van Asselt and Kim (2019) analyses how uncertainty and scientific expertise were dealt with, the policy responses of actors at member state level in Europe, the role of the European Union via its specialized agencies (including ECDC), and actions taken by WHO. The study found that the WHO response was less effective than the ECDC's response, and was heavily criticised by various internal and external evaluation reports. Specifically, it was considered that the WHO was not open enough about the uncertainty of the situation during the pandemic and overstated the expected outcome in its communications to national governments, thereby feeding the potential

overrating of the pandemic. In addition, it was found that the WHO provided limited uncertainty information and its policy guidance was too prescriptive in nature. The study therefore concluded that the WHO portrayed uncertainty-intolerant behaviour, by not providing uncertainty information which would allow decision makers to reflect on uncertainty and the consequences for policy-making.

In contrast, the study found that ECDC adopted an entirely different approach to providing uncertainty information which lead to a more effective outcome. During the pandemic, ECDC published more than 300 publications including over 250 daily updates, threat assessments, risk assessments, guidance documents and surveillance reports AND received substantial praise for its handling of the situation, including from the Council of Europe who welcomed “the realistic approach taken on the pandemic by European institutions involved in public health matters”,<sup>415</sup> EU Member States were reported to have highly valued the risk assessments and evaluation reports provided by ECDC, that were “excellent and reliable”. ECDC was described as “the entity that provided most information and in a timely manner”. In addition, the study found that in its reports, ECDC provided uncertainty information, emphasising the uncertainty as well as what was not known. In addition, ECDC provided national policymakers and decision makers with a range of possible public health measures that could be adopted during an influenza pandemic, as well as specific policy advice regarding various measures for travel, personal protection, public places, and antivirals. Further, the study found that in all of these proposed measures, ECDC clearly stated what was known and unknown as well as how much evidence was available. These outputs were found to be highly appreciated by the EU member states, and the study found that it allowed national decision makers to decide about the appropriateness of the response in their context

In the counterfactual scenario, in the absence of ECDC, EU Member States would have lacked such expert guidance and articulation of uncertainty that would have enabled a more nuanced approach to decision making in response to the pandemic threat.

#### EU 2004 accession countries

Feedback from consulted stakeholders representing Member States who joined the EU in 2004 also offer insights into the counterfactual scenario in which the Centre had not existed by allowing a before and after comparison<sup>416</sup>. Firstly, all of the stakeholders consulted from these Member States reported that their surveillance systems had been strengthened as a result of adopting ECDC methodologies and multiple examples were given.<sup>417</sup>

Consulted stakeholders also highlighted the added value brought by ECDC related to its facilitation of their harmonisation and communication with other Member States. For example, the adoption of ECDC key and/or case definitions which in turn allowed benchmarking as well as facilitated communication with other Member States as a result of having a common language and a shared scientific basis. The dialogue fostered with other Member States via various ECDC multilateral platforms was highlighted as having facilitated the exchange of information and management of cross-border threats.

**In summary, a comparison with the situation before the Centre was established shows that it has brought considerable added value at the EU level. Specifically, the EU structure for coordinating work in the area of communicable diseases which was in place prior to its existence consisted of more dispersed set of Member State networks covering specific communicable disease group. Experience from communicable disease outbreaks lead to the recognition that this structure was found to be insufficiently strong in terms of preventing and controlling communicable disease, as it did not sufficiently promote harmonisation and coordination amongst Member States, as well as address variation in public health capacities across different Member States. It was decided that the establishment of a European Centre for Disease and Control was the appropriate solution to this situation. Evidence from throughout the evaluation supports the added value it has brought to the EU in addressing these weaknesses since. This is particularly as a result of the Centre having promoted harmonisation and coordination amongst Member States in the areas of surveillance and alert, as well as a coordinated approach to the response to outbreaks of communicable diseases in the EU. A comparison of how response epidemics take place in parts of the world where there is no comparable regional, an analysis of accession Member States’ activities in the area of communicable diseases before and after their accession to the EU, and consulted stakeholder feedback also illustrated that the Centre has brought added value to the EU by effectively strengthening the public health capacity of countries across the EU. The analysis shows that the most prominent consequence of the Centre’s absence would be reduced coordination and harmonisation between Member States. This would consequently have a negative impact on the coordination amongst actors to prevent and control communicable diseases and respond to outbreaks, thereby adversely affecting health security in the EU.**

# Evaluation of Coordination and Coherence

## **EQ 15: To what extent did ECDC's internal coordination and coherence contribute to achieving external coherence and coordination of ECDC activities with its partners? What were the influencing factors or mechanisms to ensure coordination and coherence?**

ECDC operates within a complex external environment with various stakeholders and partners from EU Member States, EU and international institutions. Internal coordination and coherence are essential to achieving external coherence and coordination of the Centre's activities within its interactions with its partners. The evaluation found no evidence to suggest a lack of internal coordination and coherence which has affected its achieving external coherence and coordination in its activities with its partners. On the contrary, there is evidence that ECDC has processes and tools in place to ensure such coordination and coherence. One tool that supports this coherence is ECDC's Client Relationship Management system, which was introduced during the evaluation period (in 2013) to support the centralised management of competent bodies, nominated experts and other external contacts. This tool is viewed by the consulted stakeholders as having improved the flow of information between Member States and the Centre. Stakeholders highlight that it was an improvement, especially in coordinating relations with partners in the CCB structures.

The consultation of different external partners (EC, EP, EU Agencies, Member States, WHO) in the programming activities of the Centre is also a positive factor for ensuring coherence. A review of the central registry of stakeholder comments received in the consultation process on the SPDs in 2017 and 2018 shows that comments were received by these partners and addressed in the programmes. The coherence in relations with external partners who are involved in the international activities of the Centre can also be attributed to the presence of an International Relations policy.

The stakeholders consulted for this evaluation were of the opinion that there is a good coherence and coordination within the organization and its internal activities, which is achieving external coherence and coordination. Further, stakeholders confirmed that ECDC is responsive and present in its engagement with external partners, which is appreciated and builds confidence in the organisation, while at the same time strengthening multilateral coordination.

**In conclusion, the evaluation found no evidence to suggest there a lack of internal coordination and coherence which has affected its achieving external coherence and coordination in its activities with its partners. Contrarily, the introduction of the Centre's Client Relationship Management system during the reference period was found to have positively influenced the Centre's capacity to ensure coordination and coherence in its activities with its partners. In addition, the Centre's mechanism for obtaining external input into its programming activities has also promoted coordination and coherence with other relevant external partners working in a similar field. Finally, consulted stakeholder feedback highlighted the Centre's staff's responsiveness and engagement with external partners as a factor positively influencing their multilateral coordination.**

## **EQ 16: To what extent are the activities of ECDC coordinated and complementary to those of the Member States?**

### *SEQ 16.1 To what extent are the activities of ECDC coordinated and complementary to those of the Member States?*

Coordination between ECDC and Members States takes place mainly in the interactions with the Country Competent Bodies (CCB), in the context of different networks that ECDC is part of, or coordinates, and through the coordination taking place via the Advisory Forum and the Management Board. The CCB structure was established in 2012 to enable the Centre to efficiently work with the EU/EEA Member States, based on lessons learned from the first period after the Centre's establishment. Specifically, the need to improve the Centre's coordination with Member States became clearer as the Agency grew and its relations with countries intensified, pointing to increasing complexity. The CCB replaced the previous setup for coordination between ECDC and Member States, which was structured around networks based on ECDC internal areas of work. The CCB set-up is rather based on groups of diseases, while preserving a few networks for generic or transversal public health functions. As discussed under SEQ 22.4, the

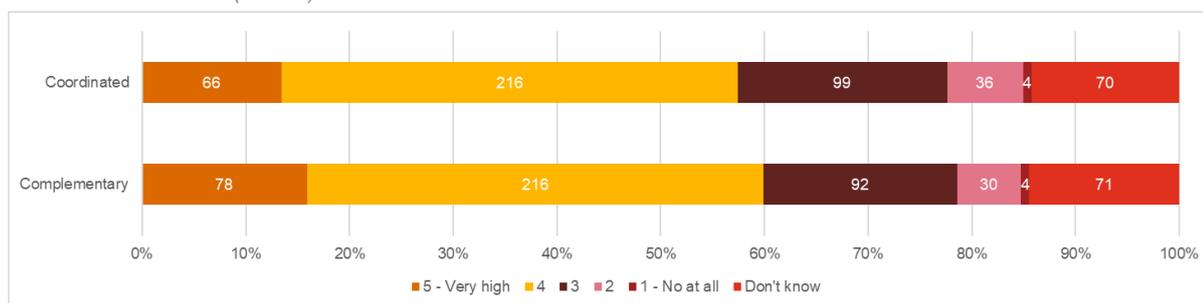
introduction of this structure was a positive improvement to the partnership and collaboration between ECDC and Member States.<sup>418</sup> As discussed under SEQ 4.6, ECDC coordinates 17 operational disease networks, which consequently support several sub-networks or consortia of public health microbiology laboratories in EU Member States. The assessments of the effectiveness of these networks was positive, returning no evidence of a duplication of activities between ECDC and Member States' activities. Indeed, the networks were found to have facilitated coordination and coherence of activities such as surveillance both within and across Member States.

Concerning the Advisory Forum, the governing body has the mandate to “ensure close cooperation between the Centre and the competent bodies in the Member States in particular on [...] (a) coherence of the Centre’s scientific studies with Member States; and (b) in those circumstances where the Centre and a national body cooperate; [...]”<sup>419</sup>. In addition, the composition of the Advisory Forum brings together senior scientists from the Competent Bodies network, representing each Member State, to advise the Director of ECDC on the quality of the Centre’s scientific work.<sup>420</sup> Although they are not meant to represent Member State interests, this does act as a safeguard against the duplication of ECDC’s scientific work with national level activities. A revision of the Advisory Forum minutes from the reference period confirm that the members fulfil this role. In addition, the draft Single Programming Document was a topic discussed in the Advisory Forum in each year under evaluation, constituting a feedback mechanism for ensuring the alignment of the Centre’s scientific work with Member States. A review of the Advisory Forum minutes did not identify any examples of cases or areas highlighted as in need of more coordination and complementarity. In addition, the analysis of the Advisory Forum’s performance over the evaluation period indicates that the body has been actively engaged in discussions on relevant scientific matters.

Finally, the coordination with Member State activities is also facilitated by the Centre’s Management Board, which includes a designated representative from each Member State. The body approves and monitors the implementation of ECDC’s work programme and budget, and adopts its annual report and accounts.<sup>421</sup> This body therefore also constitutes an official mechanism which should reduce the risk of overlapping activities between Members States and ECDC. In addition, as mentioned under EQ 15, Member States, represented in the Management Board, have the possibility to provide comments on the annual draft Single Programming Document, and thereby to influence the Centre’s work programmes. The comments provided by Management Board members on the draft Single Programming document in 2017 and 2018 were reviewed and did not return evidence of feedback from the Member States which pointed to the need for more coordination and complementarity between ECDC’s activities and Member States.

The survey results presented in Figure 69 show that 60% of the surveyed respondents think ECDC’s activities are complementary to Member States’, and 57% think they are coordinated to a ‘high’ or ‘very high’ extent. Complementarity stems from the fact that ECDC’s activities are conducted on a European level, whereas Member States’ activities are addressing the national dimension. This naturally separates the roles of both actors. A clear appreciation by smaller Member States can be observed, due to a lack of resources and national public health institutes at times.

Figure 69 Please rate the extent to which you think the activities of ECDC are coordinated and complementary to those of the Member States? (n=491)



In terms of potential duplication of work between ECDC and Member States, as discussed under SEQ 16.2 this was not considered to be a common issue. Many Member States, especially larger ones with strong PH Institutes, are of the opinion that ECDC’s activities provide a good indication of where Europe is as a whole. ECDC’s activities are viewed as beneficial, especially in the area of surveillance and investigation. Further, work on cross-border threats are viewed as being unthinkable without ECDC’s complementary activities helping national PHIs. Furthermore, ECDC is considered to bring together alternative approaches to domestic challenges experiences by Member States.

The interviews with various stakeholders from different Member States also showed that there is a correlation between the size of Member States and their perception of ECDC activities as collaborative or complementary to their own. Larger countries with own PH institutes can conduct independent research and thereby inform policy-making, so they view ECDC's activities as complementary to their own (and at times duplicating). Smaller Member States or Member States with less resourced PH institutes rely heavily on ECDC input and support, and thus rely more heavily on the Centre's activities. For instance, this was clearly illustrated when comparing the feedback from consulted stakeholders from Malta and Germany. On the one hand, the consulted representatives of Malta viewed ECDC as a source of support and technical assistance.

**In conclusion, the composition of the Centre's governing bodies is conducive to ensuring that its activities are coordinated and complementary to those of the Member States and via the Centre's established mechanisms for allowing relevant Member State representatives to provide input into their annual work programmes. The implementation of a Competent Coordinating Body structure has also contributed to ensuring effective coordination with Member States. Finally, consulted stakeholder feedback confirms there is a lack of overlapping activities between the Centre and Member States. However, smaller Member States or Member States with less resourced Public Health institutes rely more heavily on ECDC input and support, while larger or more resourced Member States tend to view ECDC's activities as more complementary to their own.**

### **SEQ 16.2 To what extent has ECDC prevented unnecessary or overlapping activities with Member States?**

As already discussed in SEQ 16.1, the evaluation did not come across any evidence of activities that are viewed by stakeholders as overlapping in a way that is inefficient. ECDC work is rather viewed as complementary by Member State and is often used by national public health institutes as a reference and guideline in relation to the overall situation within Europe. In contrary, the Centre's epidemic intelligence outputs including Rapid Risk Assessments, Round Table reports, EPIS and TESSy, were found to reduce the need for Member States to carry out epidemic intelligence activities at national level (see SEQ 4.2 and SEQ 4.5). In addition, in the case of Rapid Risk Assessments, it was found that their production by ECDC reduced duplicate efforts between Member States.

In addition, there are multiple examples of existing mechanisms in the ECDC processes and organisation which prevent unnecessary, overlapping or duplicating activities with Member States. As discussed under SEQ 16.1, the Centre's composition in terms of its governing bodies and the implementation of the Competent Coordinating Bodies structure ensures the Centre's close alignment with Member States. In addition, the process for gathering both the Management Board members and Advisory Forum's feedback on their annual work programmes strengthens this. Finally, as discussed under SEQ 4.11, ECDC regularly draws on the expertise available to it in Member States and in existing dedicated surveillance networks to deliver relevant and high quality outputs such as scientific advice and Rapid Risk Assessments. This also constitutes a robust mechanism for ensuring collaboration with Member States and avoiding duplications. Although the analysis under SEQ 16.1 found that some consulted stakeholders representing larger Member States considered that ECDC's activities and/or outputs could at times duplicate with their own, they did not consider these overlaps unnecessary, but rather the unavoidable outcome of ECDC's activities and outputs having to meet the needs of 28 different Member States.

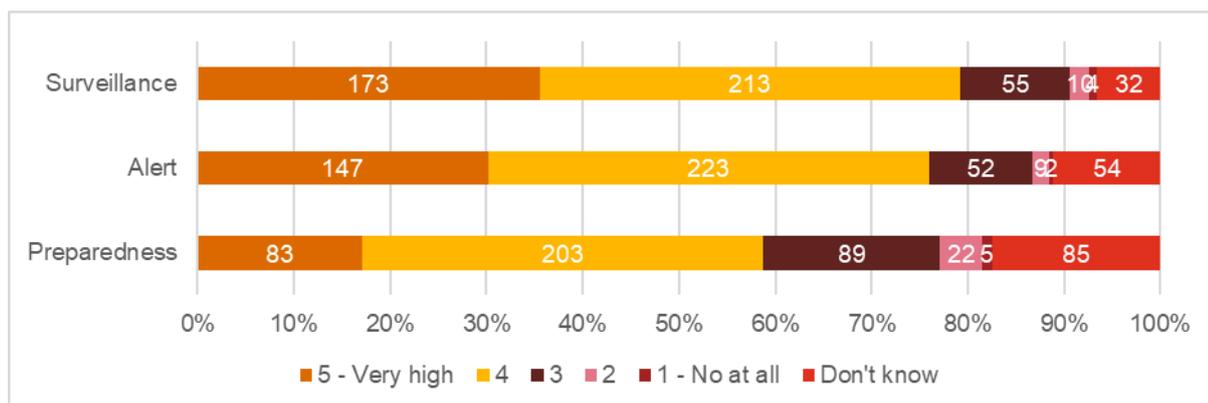
While the consulted stakeholders considered that, overall, activities are coordinated between Member States and ECDC, examples of duplicate efforts occurring as the result of a lack of coordination between the WHO and ECDC were highlighted by multiple consulted stakeholders and confirmed by focus group participants. Specifically, multiple examples were given of when a consulted stakeholder was requested the same data by both organisations through both Commission's EWRS and the WHO-operated IHR notification system causing Member States to spend extra time and resources on this task. Nevertheless, stakeholders also acknowledged that improvements have been made by WHO and ECDC to ensure that the information to be reported can be submitted only once in areas such as tuberculosis, HIV and influenza, but there is room for improvement in remaining areas (see also SEQ 4.2). The collaboration between WHO and ECDC is discussed in more detail under EQ 17.

**In conclusion, the Centre's organisation and processes for including Member State actors', including Management Board Members, Advisory Forum members, CCB actors and external experts, in the elaboration of its activities and outputs ensures a close alignment with Member States, thereby avoiding unnecessary or overlapping activities. Further, the analysis under Effectiveness indicates that on the contrary, a number of the Centre's activities reduce the necessity for Member States to carry them out. Finally, in order to reduce the burden of duplicate work on Member States, synergies in the reporting between ECDC's EWRS and the WHO-operated IHR notification system should be further fine-tuned.**

**SEQ 16.3 To what extent has there been adequate coordination between Member States for surveillance, alert and preparedness thanks to ECDC?**

In the area of **surveillance**, as discussed under SEQ 4.2, SEQ 4.5 and EQ 6, the Centre’s epidemic intelligence activities are considerably effective and promote coordination and harmonisation between Member States. Nevertheless, as discussed under SEQ 4.1, the 2016 Court of Auditors report on Decision 1082/2013 noted that ECDC’s efforts to address issues in epidemiological surveillance data reporting have not yet been fully effective to ensure optimal data comparability and quality.<sup>422</sup> Early results of the evaluations of EU/EEA public health surveillance systems (EPHESUS) of both the Legionnaires Disease surveillance system<sup>423</sup> and the Food and Waterborne Diseases surveillance system<sup>424</sup> find that there is systematic under-ascertainment/under-reporting in a number of countries across Europe, which can be interpreted as an issue with the overall level of compliance of Member States with the obligation to carry out surveillance laid down in Decision 1082/2013. This was also a concern raised repeatedly by stakeholders, and related to difficulties of ensuring the consistency of approaches to surveillance across Member States. This was supported by focus group participants, who noted that discrepancies across different Member States’ reporting levels, surveillance systems and the quality of data reported persisted. It was highlighted that this issue existed as a result of a number of factors including diagnostic capabilities, discrepant case definitions, national reporting attitudes (i.e. the sensitivity of reporting) and other national contextual factors. As such, some consulted stakeholders considered parts of the issue were beyond the scope of ECDC to address, due to their root in national contextual factors. Nevertheless, others considered that providing ECDC with stronger mechanisms for ensuring consistent surveillance reporting is the appropriate solution.

Figure 70 To what extent do you think ECDC adequately supports coordination between Member States for surveillance, alert and preparedness? (n=487)



Concerning ECDC’s supporting coordination amongst Member States in terms of **alert**, as discussed under the analysis of Effectiveness, the Centre’s epidemic intelligence activities have been found to be considerably successful, with a report by the Netherlands Early Warning Committee (NEWC) concluding that an exclusive reliance on the ECDC round table reports and the ProMed-mail<sup>425</sup> would maintain a sensitive Early Warning System. The Centre’s scientific outputs such as Rapid Risk Assessments promote coordination between Member States for alert and outbreak by ensuring their discussions start from a harmonised scientific basis. In addition, they avoid duplicate efforts being carried out between the Member States by reducing the need for them to produce their own risk assessments (see especially SEQ 4.2, SEQ 4.5 and EQ 6). Furthermore, as exemplified under SEQ 4.2, there is evidence that ECDC has effectively contributed and facilitated the coordination of investigation and response measures during multi-country outbreaks. As can be seen in the figure above, this was supported by surveyed stakeholders, 76% of whom considered that ECDC was supporting coordination between Member States for alert to a “high” or “very high” extent.

In line with analyses throughout the evaluation, the assessment of ECDC’s support to coordination in **preparedness** amongst consulted stakeholder was lower. Specifically, only 58% of surveyed stakeholders considered that ECDC had supported coordination in preparedness between Member States to a “high” or “very high” extent. This is in line with the findings concerning the Centre’s activities in the area of preparedness throughout the evaluation pointing to the misalignment between the Centre’s mandate in preparedness and the broader scope of preparedness under Decision 1082/2013.(see SEQ 4.1, SEQ 4.2). Nevertheless, positive examples of the Centre’s contribution were given, including ECDC simulation exercises and its monitoring and national preparedness efforts. Further, it was noted that ECDC’s networking opportunities in the form of meetings and conferences, are helpful in developing coordination amongst Member States as the face to face interaction facilitates information exchange and coordination.

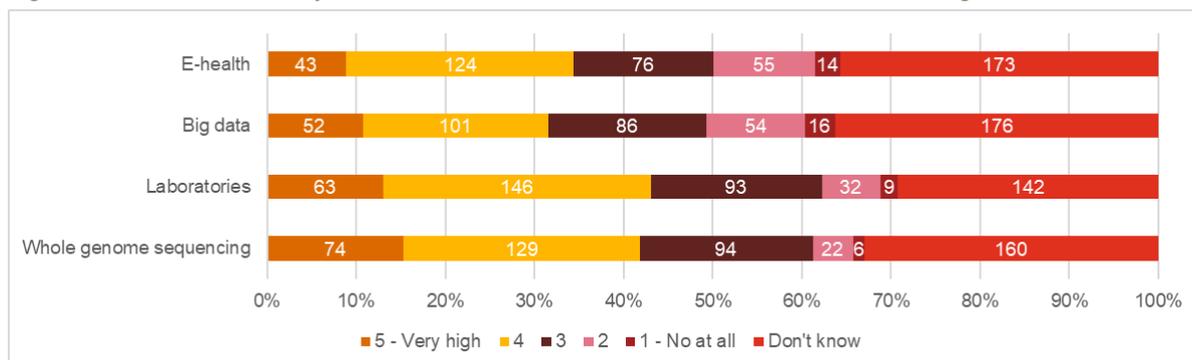
In conclusion, ECDC’s surveillance systems, scientific outputs and activities can be considered to successfully contribute to coordination between Member States for surveillance, alert and preparedness. Nevertheless, discrepancies between Member States’ reporting and surveillance systems negatively influence the extent to which the Centre can ensure coordination in surveillance. In relation to this latter point, some consulted stakeholders considered parts of the issue were beyond the scope of ECDC to address, due to their root in national contextual factors while others considered that providing ECDC with stronger mechanisms for ensuring consistent surveillance reporting was the appropriate solution.

*SEQ 16.4 To what extent has ECDC been able to translate innovation and research (e-health, big data, laboratories, Whole Genome Sequencing, etc.) in its activities of surveillance and alert for its own work, and for making it accessible to the Member States?*

The 2014-2020 Multiannual programme of the Centre identifies technological advances as one of the main drivers for developments in the area of communicable diseases and defines objectives for the Centre’s work on e-health and Whole Genome Sequencing. Consequent Annual Programmes have included activities on these areas.

Overall, consulted stakeholders’ views on the extent to which ECDC is able to translate innovation and research in the areas of e-health, big data, laboratories and WGS was rather high and the extent to which it is able to make these innovations accessible to Member States slightly lower. However, within the different areas, stakeholder views vary. For some, survey respondents believe that they should be left to Member States to address, while others considered that ECDC had demonstrated that it can help advance them as part of its activities for surveillance and alert. It is important to note that, overall, stakeholders were of the view that these areas are still emerging, relatively broad and hard to define, which makes it challenging to anticipate the extent to which ECDC and Member States can translate these innovations into tangible benefits. This view underpins the high number of “don’t know” answers received in the survey question, as shown in the figure below.

Figure 71 To what extent do you think ECDC is able to translate innovation in the following areas into its activities (n=485)



**E-health**

E-health is a priority of the European Commission, which in 2012 adopted its eHealth Action Plan 2012–2020. ECDC has had limited activities in the area of e-health over the period of evaluation (mainly in the context of its work on Immunisation Information Systems (ISS))<sup>426</sup>, but it is an area of growing priority for the Centre. This is evidenced by discussions of the subject in the Advisory Forum, as well as the specific mention of the subject as an area of increasing focus in the 2019-2021 Single Programming Document and by the Director in a 2017 Management Board meeting.<sup>427</sup> In addition, the new ECDC public health microbiology strategy 2018-2020 explicitly targets the objective of drawing synergies with innovations in e-health in the years to come, by enabling near real time sharing of laboratory and epidemiological data in future solutions for laboratory-based surveillance.<sup>428</sup>

This was supported by survey results, which show that about a third of the respondents consider that ECDC has the capacity to translate innovation within e-health into its own activities or make it accessible for Member States. This is also indicative of the still unclear nature and broad definition of this term and also shows that overall stakeholders do not yet know what to anticipate from this innovation in the area of communicable diseases. Only a few survey respondents and interviewees were able to give specific examples of ECDC activities that support e-health related objectives (e.g. TESSy). Several of the consulted stakeholders considered that ECDC needs more analytical programming skills and resources, which are currently not available to translate e-health into their activities. A

consulted group of stakeholders representing a national Ministry of Health suggested that it would be beneficial for the Centre to rather focus on Artificial Intelligence, which is expected to improve the quality of data collected by ECDC.

### Big data

A documentary analysis returned no evidence of the Centre's direct use of "big data" over the reference period. However, there is evidence that it has emerged as a topic for discussion both within ECDC Advisory Forum and the Management Board meetings as a topic for discussion, concerning its future potential, costs and benefits<sup>429</sup>. In line with this, feedback from consulted stakeholders suggests that the majority are struggling with the exact definition of the term "big data", exemplified by the high number of "don't know" responses seen in the figure above. Although not yet clearly defined and explored properly, 31% of those surveyed believe that ECDC is able to translate big data into its activities. Specifically, the consulted stakeholders consider that current activities, such as the annual surveillance reports on different communicable diseases, and ECDC outputs such as TESSy, are good indicators of the agency's ability to exploit big data to its advantage and for the benefit of MS.

Nevertheless, multiple consulted stakeholders stressed that ECDC should not invest too many resources in big data, since the required quantitative skills – currently lacking in the agency – would be costly to acquire and operationalise. This is supported by discussions held during the ECDC Second Joint Strategic meeting in 2015<sup>430</sup>, during which it was cautioned against making big data a priority area, and a 2017 Advisory Forum meeting, during which a member pointed out that the area of big data seemed to be increasingly draining financial resources<sup>431</sup>. Further, multiple consulted stakeholders pointed out that big data is mostly accessible at national level, meaning that pooling it at EU level would pose data protection issues (for instance, not all data from national health databases can be shared). In sum, limited action is expected from ECDC in this area of innovation and research. Given the highlighted required financial investments in this area, it should therefore not be prioritised in the Centre's activities. This was supported by the findings of the External Evaluation of the ECDC Fellowship Programme, which found diverging opinions amongst consulted stakeholders concerning the utility of integrating the topic into the programmes' curricular, with more support amongst the EUPHEM stakeholders.

### Laboratories

Similarly to the area of e-Health, evidence suggests that initiatives concerning innovation in laboratory methods have been relatively few over the reference period, but that this is a growing area of focus for the Centre. An analysis of the ESCAIDE conference agendas shows that different laboratory methods are regularly discussed under the umbrella of presentations on various topics, predominantly concerning laboratory surveillance systems. The topic was also directly featured within a 2015 ESCAIDE Conference workshop called "The right tools for the job: choosing appropriate new laboratory methods to support outbreak detection and response", attracting around 100 participants who evaluated the workshop positively.<sup>432</sup> Finally, as discussed under SEQ 4.6, ECDC's support to dedicated laboratory surveillance networks and Fellowship Programme has also successfully promoted the sharing of best practices and methodologies across EU countries via the professional participants of these networks. Furthermore, ECDC's support to laboratories was via trainings involving national reference laboratories and regular evaluations of technical expertise via External Quality Assessments (EQA) was highlighted as a positive and effective output strengthening the laboratory surveillance. In addition, the EU LabCap survey was highlighted as an effective tool for assessing EU/EEA laboratory capacities, and which aims to foster and reinforce the EU public health microbiology system.<sup>433</sup> Although causality is difficult to ascertain, an OECD report recognised that progress has been made in EU/EEA laboratory systems since the implementation of the EULabCap.<sup>434</sup>

In addition, similarly to the field of e-Health, there is evidence that the Centre is placing increasing efforts to fostering innovation in laboratory methods. For instance, the ECDC 2018-2020 public health microbiology strategy identifies developing synergies with EU initiatives on innovative laboratory methods as one of the key objectives in the area for the upcoming years.<sup>435</sup> Furthermore, the topic was raised during a 2017 Advisory Forum meeting, in which a member highlighted the importance of having a systematic approach to implementing new laboratory methods looking forward.<sup>436</sup>

Concerning consulted stakeholder feedback, the extent to which the Centre is able to translate innovation in laboratories and makes these innovations accessible to Member States received the most support out of the indicators questioned on. As can be seen in the figure above, 43% of the surveyed stakeholders believed that ECDC had the capacity to translate innovations in the area of laboratories into its activities to a "high" or "very high" extent, although this number rises to 61% when excluding those who responded "don't know". Similarly, 39% considered that the Centre was able to make its innovations in the area accessible to Member States to a "high" or "very high" extent, and this rises to 63% when excluding respondents who answered "don't know". Survey respondents and interviewees

gave examples of ECDC's contribution to this area which are aligned with the above analyses, i.e. support to laboratory networks, the Fellowship Programme, EQAs, trainings, EU LabCap survey.

### Whole Genome Sequencing

Evidence suggests that ECDC's work in the area of Whole Genome Sequencing (WGS) is more developed than the previously discussed areas, and the Centre has taken a leading role in supporting the transition to application of WGS for routine surveillance and outbreak studies in the EU.<sup>437</sup> In 2013, partially as a result of the Second External Evaluation, it was identified that progress needed to be made in the area of molecular typing and ECDC was identified as the relevant body to lead development in the area.<sup>438</sup> An ECDC roadmap for integration of molecular typing for priority diseases into EU level surveillance and outbreak preparedness was thereby developed and adopted, offering a stepwise approach starting with a small number of priority pathogens, drawing lessons from the pilot projects and changing resources and capacities in the Member States.<sup>439</sup> In 2015, the second roadmap covering the period 2016–19 was developed in collaboration with Member States, and recommends a priority list of pathogens/diseases and technical implementation options for the medium-term integration of molecular/genomic typing into EU-level surveillance and epidemic preparedness. The strategy is intended as a strategic framework to guide the consolidation of ECDC activities in relation to molecular typing of human pathogens, and to focus the development of genomic-typing-enhanced surveillance over the next four years. The strategy again assigns ECDC a leadership role, envisaging that the Centre will have contributed to the establishment of standards and systems enabling the EU-wide use of WGS as the method of choice for typing of microbial pathogens.<sup>440</sup>

Evidence of the Centre's leadership also emerged in the External Evaluation of the ECDC Fellowship Programme, in which the integration of WGS methods into the Fellowship Programmes' curricular emerged as a positive example of their adaptation to changes in the professional landscape. In addition, in 2017 the Centre signed a collaboration agreement with EFSA to establish a joint molecular typing database.<sup>441</sup> ECDC also provides support to countries without WGS capacity, allowing them to conduct more impactful investigations. In 2016, for example, thanks to WGS-based evidence distributed by ECDC, the European Commission was able to measure and to contain a multinational outbreak of Salmonella, originating from one of Europe's largest egg farms. Furthermore, a tool was developed to analyse data and send alerts regarding a monitored serotype when there was a significant departure from the baseline data detected.<sup>442</sup> Furthermore, although causality is hard to establish, ECDC's efforts in this area have been correlated with an increasing uptake of WGS by Member States over the evaluation period. As discussed under SEQ 20.1, the 2013 EU LabCap report noted that no EU/EEA countries reported the use of WGS-based typing for routine surveillance of human pathogens, while according to the 2016 survey, the number stood at 15, with 12 more countries reporting plans to introduce WGS in their national surveillance schemes.

The above was supported by consulted stakeholder feedback, as well as findings from other areas of the evaluation. As can be seen in the image above, 42% of surveyed stakeholders considered the extent to which the Centre had successfully translated innovation in WGS into its activities was "high" or "very high". Secondly, 36% of considered the Centre had successfully made its innovations in the area accessible to Member States to a "high" or "very high" extent. Nevertheless, these numbers rise to 62% and 50% respectively when excluding respondents who answered "don't know". Feedback from survey respondents and interviewees acknowledged the leadership role of ECDC in this area, with several highlighting it as a clear case of standardisation, and the added value of ECDC setting strategic priorities in the area. Complementing this, there is evidence throughout the evaluation of the added value of ECDC outputs in the area of WGS (see e.g. SEQ 4.2, SEQ 4.4 And SEQ 9.2)

Areas for improvement in this area highlighted by consulted stakeholders included the need for better funding opportunities. Firstly, a number of consulted stakeholders working in national laboratories which have yet to integrate WGS methods highlighted that this was largely as a result of lack of funding. This is also evidenced in the spend-outcome model under SEQ 20.1. The analysis shows that a number of countries are making use of ECDC's services in the area of WGS, however a number of low capacity countries are not using ECDC services, and this was identified as likely resulting from a lack of capacity to carry out the preparation work for WGS.

Nevertheless, there is need for further support from ECDC to smaller countries and countries with weaker capacity in the area of WGS. There was a consensus amongst consulted stakeholders that ECDC's role should be to help Member States that lag behind in WGS technology, and this was a point also raised in an Advisory Forum meeting<sup>443</sup>. An effective route to achieve this is by supporting the prioritisation of WGS on national agendas, and thereby funding for the development of this area. As discussed under SEQ 4.7, this could be promoted by conducting country visits to relevant countries. Suggestions received also show that there would be added value in creating an ad hoc platform for surveillance in this area on which Member States could collaborate and share information, as is the case for certain

disease areas. Finally, it was considered that there would be added value in ECDC supporting the development of a universal legal framework in terms of patients' rights and data collection.

Secondly, and relating to the discussion on the Centre's coherence with Joint Actions under EQ 17, multiple consulted stakeholders highlighted that strengthened coherence between ECDC and some initiatives established by the European Commission, such as research programs, would improve advances in the area. While the EC has funded projects, such as the COMPARE projects, a multidisciplinary research network focusing on the detection of and response to disease outbreaks using new genome technology<sup>444</sup>, consulted stakeholders note that ECDC's involvement had been limited, and that a better collaboration with ECDC could facilitate a better use of resource and knowledge, positively impacting the outcomes.

Finally, consulted stakeholders suggested that ECDC can facilitate further harmonization of work on this area by introducing new standards and algorithms for sequence analysis of e.g. organisms and resistance traits and the differentiation (outbreak tracking)

**In conclusion, developments and discussions on innovations and technologies in the areas of E-health, big data and laboratories are ongoing fast-paced areas for development. There is evidence that the Centre has had little activity over the evaluation period in the field of e-health, but is beginning to develop its activities in the area more comprehensively. There was also little evidence of ECDC initiatives in the area of big data, and less support was received for the necessity to increase its efforts in this area. In the area of laboratories and WGS, the Centre has been significantly more active. Especially concerning WGS, the Centre has provided leadership in the field, providing a strategic framework and support to promote its successful deployment and uptake across EU/EEA MS. Possibilities for improvement in this area included the need for additional synergies to be drawn with other relevant EU initiatives in the field, the need for ECDC to further support Member States with less capacity to adopt WGS and the increase of dissemination of information amongst Member States via the creation of a platform.**

**EQ 17: To what extent is the Centre ensuring appropriate coordination with WHO, GOARN, EU agencies, Commission services, scientific bodies and other partners (CDCs of third countries) that deal with comparable issue, to foster synergies and avoid duplication?**

ECDC's mission, as defined by Article 3 of its Founding Regulation tasks the mission with ensuring that "In pursuing its mission, the Centre shall take full account of the responsibilities of the Member States, the Commission and other Community agencies, and of the responsibilities of international organisations active within the field of public health, in order to ensure comprehensiveness, coherence and complementarity of action".<sup>445</sup> As such, the following analysis will assess the extent to which the Centre is ensuring appropriate coordination and synergies with WHO, WHO GOARN, other relevant EU agencies, Commission services, scientific bodies and other partners.

### World Health Organisation

The World Health Organization (WHO) is one of ECDC's most important technical partners and the Founding Regulation<sup>446</sup> requires ECDC to establish clear procedures for cooperation with WHO and the two institutions accordingly pursued cooperation and coherence in their activities.<sup>447</sup> ECDC regularly contributed to WHO's technical work on infectious diseases, and participated in WHO's Global Outbreak Alert and Response Network (GOARN) over the evaluation period, as further elaborated below. The coordination is especially strong with WHO's Regional Office for Europe (WHO/EURO).

Furthermore, evidence from the evaluation period suggests that the coordination between the two agencies has been improving. At the beginning of the evaluation period, voices of concern were still being raised in Management Board meetings regarding decreasing the burden on Member States, the collaboration and continuous challenges in working with the WHO, such as double reporting, in particular, with regards to surveillance data.<sup>448</sup> In contrast, in a 2017 Management Board meeting, several members congratulated ECDC for the ongoing collaboration with the WHO referring to their collaboration in dengue outbreaks. One member also shared a recent positive experience concerning the Joint External Evaluation on the International Health Regulations, which had recently taken place in Finland and involving WHO, FAO, ECDC, European Commission, Member States representatives.<sup>449</sup>

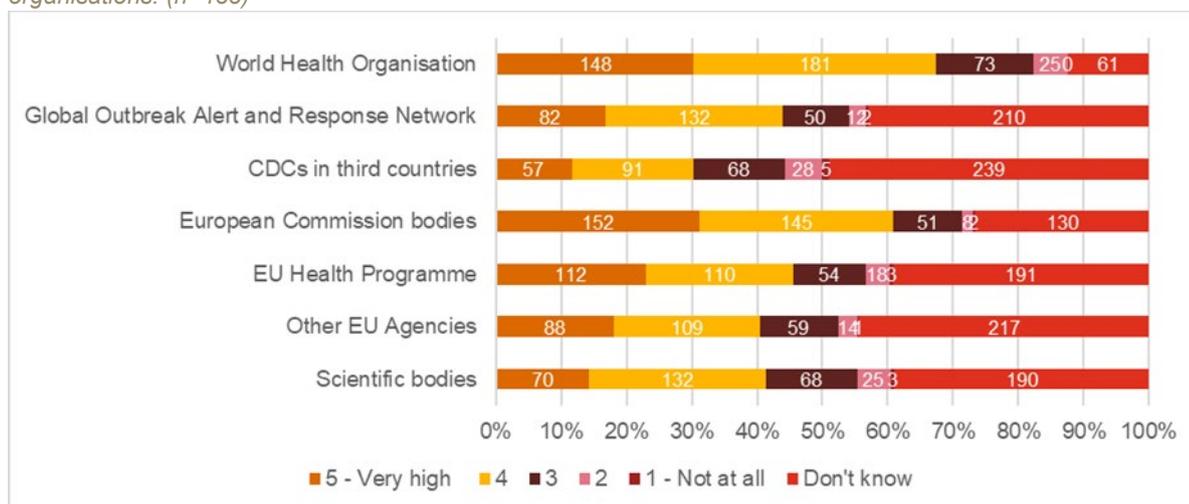
In addition, several examples of additional efforts to enhance collaboration were identified. For instance, in 2017 WHO and ECDC updated the 2011 administrative agreement between the two, establishing a WHO/ECDC Joint Work Programme and covers coordination of surveillance and alert activities, cooperation on epidemic intelligence, preparedness and response, and exchange of best practices. In addition, several joint initiatives and activities have

taken place, including joint missions and reports<sup>450</sup>, joint press releases and other communication activities<sup>451</sup>. Joint coordinated surveillance takes place on HIV/AIDS, TB and influenza and a large number of activities are ongoing in the disease specific areas.<sup>452</sup>

Another example of enhanced collaboration can be found in the Central Asian and Eastern European Surveillance of Antimicrobial Resistance (CAESAR) network, which is a joint initiative of WHO/EURO, the European Society of Clinical Microbiology and Infectious Diseases (ESCMID) and the Dutch National Institute for Public Health and the Environment (RIVM). CAESAR is a network of national AMR surveillance systems and collects data from all countries, which are part of the WHO/Euro Region, that are not part of the European Antimicrobial Resistance Surveillance Network (EARS-Net) run by ECDC.<sup>453</sup>

The above examples were supported by consulted stakeholders, the majority of whom noted a marked improvement in the collaboration and cooperation between the two bodies over the reference period. As can be seen in the figure below, the majority of survey respondents (62%) assessed the coordination between ECDC and WHO positively. In addition, almost 70% of the interviewed stakeholders were able to give at least one example of an activity conducted in collaboration between ECDC and WHO. The highlighted examples of successful collaboration include the joint reports and the fact that TESSy is used to report data on tuberculosis, HIV and later influenza and vaccine preventable diseases to both organisation and thus avoid duplicating work for national public health institutes. Generally, the consulted stakeholders agree that, should there be an outbreak, both institutions need to be involved in the investigation aspect.

Figure 72: To what extent in your opinion ECDC is ensuring appropriate collaboration with the following external organisations: (n=488)



Nevertheless, as discussed under SEQ 4.2 and SEQ 16.2, there is evidence that issues related to users' having to duplicate reporting into the Commission's EWRS (technically operated by ECDC on behalf of the Commission) and the WHO-managed International Health Regulations notification system remain. Consulted stakeholders point out that there is still some room for ECDC to promote further coherence between the two systems by ensuring streamlining between the two systems on all diseases which are required to be reported in both systems. For instance, consulted stakeholders acknowledged that improvements had been made between the two systems in terms of ensuring that the information to be reported can be submitted only once in areas such as tuberculosis, HIV and influenza. However, that in other disease groups, duplicate notifications continued to be received from both systems which lead to confusion as to which system to input information in first and causing Member States to spend extra time and resources on inputting the data into both systems. These findings were supported by feedback received within focus groups.

### WHO GOARN

ECDC's coordination with WHO GOARN over the reference period can be considered high, especially exemplified during 2014 Ebola outbreak. Over 2014 and in 2015, ECDC and WHO/Global Outbreak Alert and Response Network (GOARN) effectively collaborated to support the international response in Guinea.<sup>454</sup> Specifically, the Centre mobilised their own staff and issued calls for external experts for deployment via GOARN. In a second step, ECDC reviewed their CVs and forwarded the information to WHO, the latter of which made the decision. This resulted in the Centre

mobilising 62 experts for deployment through WHO GOARN. The result was therefore collaboration and no duplication of activities between the two bodies.<sup>455</sup>

This deployment of experts in response to the outbreak and in response to the threat posed by the Ebola virus was recognised as a major contribution from the Centre. A consequent evaluation carried out by the Centre found that the initiative provided an important contribution by mobilizing highly qualified epidemiologists for outbreak response. In addition, that the Centre's contribution to the outbreak had significantly raised ECDC's profile as a potential contributor to other EU and international emergency and crisis management mechanisms, including WHO/GOARN and the European Medical Corps.<sup>456</sup>

These findings were supported by consulted stakeholder feedback. As seen in the figure above, 78% of the 288 surveyed stakeholders who were aware of ECDC's and GOARN's collaboration agreed that the coordination between the two bodies is very high and relevant. Feedback from interviewed stakeholders confirmed this. Specifically, interviewees considered that collaboration with GOARN was important for strengthening ECDC's visibility outside of EU borders, and helped to avoid duplication in the response to international outbreaks.

### CDC's in third countries

The collaboration between ECDC and a number of non-EU Centres of Disease Prevention and Control (CDC) is formalised through Memoranda of Understanding (MoU) and administrative agreements to enhance cooperation. Over the period of evaluation, such agreements were in place with the CDCs of the USA, Canada, Israel and China.<sup>457</sup> For each of these countries, an ECDC liaison officer is also appointed, who are responsible for the rapid exchange of information where necessary. Consulted ECDC staff also indicated that in 2017, the Centre initiated joint action plans to structure the collaboration between their liaison officers and the other CDCs. These are reported to have been implemented as from 2018 and are intended to provide an overview of joint operational activities and the exchange of information. Finally, in 2016 ECDC appointed a liaison officer from ECDC to the US CDC in Atlanta in the context of the Zika virus outbreak constituting an example of when the Centre used this role to foster synergies with a CDC in a third country.<sup>458</sup>

Although secondary data on the results of the concluded MoUs could not be identified, consulted stakeholders knowledgeable about the subject highlighted the MoUs with the China CDC (2007), Public Health Agency of Canada (2007) and the US CDC (2008) as examples of arrangements ensuring good collaboration.<sup>459</sup> However, some stakeholders also called for further collaboration with the CDCs of third countries, with the US CDC most frequently mentioned (e.g. calling additional initiatives such as the TATFAR initiative<sup>460</sup> and harmonisation of surveillance methods using new technologies such as WGS). Further, some consulted stakeholders believe that ECDC should increase its support of the Africa CDC, which was established in 2017 (see SEQ 14 for more information on ECDC's work with Africa CDC).

### European Commission

ECDC coordinates its activities with a number of European Commission bodies. ECDC works very closely with its parent Directorate-General - for Health and Food Safety (DG SANTE), particularly with Directorate C (Health systems, medical products and innovation). Further, ECDC provides advice for research issues within the Framework Programs of the Directorate-General for Research and Innovation (DG RTD). Additionally, ECDC is responsible for several projects funded by the Directorate-General for European Neighbourhood Policy and Enlargement Negotiations (DG NEAR) focusing on the development of technical cooperation with non-EU countries in the area of communicable diseases. Finally, ECDC cooperates with the Directorate-General for Humanitarian aid and Civil Protection (DG ECHO) and the Directorate-General for International Cooperation and Development (DG DEVCO).

Of the consulted and informed survey respondents (i.e. excluding those who responded "don't know", 82% believe that the extent to which the European Commission – ECDC cooperation is adequate and rate it as "high" to "very high". Further, interviewed and survey respondents (including from the institutions involved) were able to provide examples of cooperation between the two. The most frequently mentioned included monthly telephone conferences between ECDC and DG SANTE and the periodic meetings between DG RTD, AGRI and DG NEAR/DEVCO.

Coordination between the EC and ECDC in the scope of Decision 1082/2013 is discussed under EQ 22.3.

## EU Health Programme

The EU Health Programme outlines a strategy for ensuring good health and healthcare in the EU. The Programme constitutes a funding instrument aimed at supporting cooperation among EU countries, and underpins and develops EU level health activities. Its specific objectives are<sup>461</sup>;

- Promote health, prevent diseases, and foster supportive environments for healthy lifestyles
- Protect citizens from serious cross-border health threats
- Contribute to innovative, efficient and sustainable health systems
- Facilitate access to better and safer healthcare for Union citizens.

As such, the Centre's activities can be considered successfully aligned, in particular in relation to the first two. This was supported by consulted stakeholder feedback, with 72% of the surveyed stakeholders who reported being familiar with it (i.e. excluding those who responded "don't know"), considering that ECDC is ensuring appropriate coordination with it, as seen in the figure above.

The Centre's contribution to several Commission Joint Actions financed under the Health Programme were highlighted in stakeholder feedback as of particularly high added value, particularly relating to the following Joint Actions:

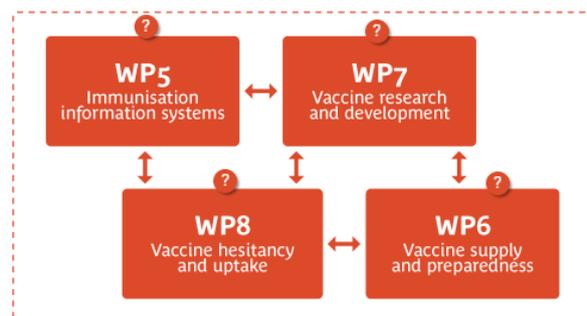
- the Joint Action on Antimicrobial Resistance and Healthcare-Associated Infections (AMR and HAI);
- the Joint Action on Vaccination (JAV);
- the Joint Action Health Information (InfAct);
- EMERGE Joint Action project ('Efficient response to highly dangerous and emerging pathogens at the EU level') in response to the threat posed by the Zika virus outbreak<sup>462</sup>;
- the Joint Action on HIV and Co-infection Prevention and Harm Reduction (HA-REACT)

Nevertheless, the evaluation found that there is room for strengthening the coordination and coherence between the Centre and these Joint Actions. Firstly, consulted stakeholders involved in the Joint Actions, as well as ECDC staff involved in the topics addressed by the Joint Actions indicated that duplications and/or overlap between the Centre's activities and the activities of the Joint Actions has already occurred. The topic of synergies between the Centre and Joint Actions was also raised in both ECDC Advisory Forum and Management Board meetings in the later years of the evaluation period. With respect to a Joint Action on e-health a member of the Management Board questioned how the different activities at EU-level would be coordinated, to which the Chair agreed it would be relevant to have an overview of the ongoing activities. In addition, the JAV was discussed and the importance of ensuring alignment with ECDC work was stressed. In relation to the JAV, an Advisory Forum member expressed the opinion that ECDC activities and the Commission Joint Action would reinforce one another rather than conflicting.<sup>463</sup>

Firstly, consulted stakeholders involved in the Joint Actions, as well as ECDC staff involved in the topics addressed by the Joint Actions indicated that duplications and/or overlap between the Centre's activities and the activities of the Joint Actions has already occurred. An example provided by one stakeholder involved in the action related to the establishment of a platform for cooperation between networks for laboratory response under the EMERGE Joint Action, which they identified as being a duplication of work in relation to the existing ECDC laboratory networks (see SEQ 4.6).

The duplication of work was most frequently highlighted by consulted stakeholders in relation to the JAV, a 3-year project with a total budget of EUR 5,800 and composed of 8 work packages to reach its objectives, a number of which ECDC has been asked to contribute to<sup>464</sup>. Firstly, an analysis of the ECDC 2017 Single Programming Document shows that each of the topics addressed in the JAV's operational work packages (displayed in the figure to the right<sup>465</sup>) were also incorporated in the 2017 work plan for the Centre's Vaccine-preventable Diseases Programme.<sup>466</sup> Consulted stakeholders highlighted the similarities in activities between the two, particularly emphasising the risk of overlap between ECDC's activities and work package 5 on immunisation and information systems. Evidence in an evaluation report of the Joint Action by ECDC also returned evidence of an overlap between activities of the two at the time of negotiation of the grant agreement, specifically related to the JAV's work package 4, (integration to national policies &

Figure 73 European Joint Action on Vaccination operational work packages



sustainability).<sup>467</sup> The package foresees securing “the participation of the most appropriate representatives from all the EU-JAV Member States and from other stakeholders and institutions at EU level in a vaccine network”.<sup>468</sup> The evaluation report highlighted the need to clarify the exact stakeholders foreseen to be included in this network, to avoid the risk of duplication with ECDC-coordinated networks on the topic of vaccination, and the Centre’s ongoing collaboration to support the National Immunisation Technical Advisory Groups (NITAGs).<sup>469</sup> Consulted stakeholders confirmed that there was still uncertainty surrounding this point and a resulting risk for duplication. Finally, consulted stakeholders also highlighted that ECDC was only involved in some of the action’s work packages but considered that it would be relevant for the Centre to be involved in all of the work packages. This was partially due to an appreciation for its contribution to the work of the action (see also SEQ 4.5), but also to minimise the risk of duplications to the highest extent possible.

A second point raised by consulted stakeholders concerned the coherence and complementarity of these Joint Actions with the Centre’s activities, related to the sustainability of the results of the Joint Actions, and the opportunity to strengthen this by increasing ECDC’s involvement where relevant. Specifically, it was highlighted by multiple consulted stakeholders who have/are participating in relevant Joint Actions, that there was a need for a deeper reflection within the Joint Actions on how to secure an EU-level of sustainability of the outputs of these Joint Actions. For instance, in relation to the JAV, consulted stakeholders highlighted that several EU-level mechanisms were foreseen in the action (e.g. mechanisms for EU-level tools for forecasting supply and demand of vaccines, exchanging best practices on how to fight vaccine hesitancy and implementing cross-border vaccination campaigns<sup>470</sup>). However, these stakeholders considered that insufficient consideration had been given at the initial set-up of the action as to how to safeguard the sustainability of these mechanisms at the EU-level after the end of the three-year project. It was also highlighted, that incorporating the outputs of relevant Joint Actions would increase the transparency and visibility of their outputs by centralising them in a core body. Nevertheless, stakeholders who addressed this point also noted that this was not under the current mandate of the Centre and would likely require additional resources if it were to take over these activities.

However, the added value of Joint Actions were also raised by consulted stakeholders representing ECDC, as well as Member State actors who were/are involved in the relevant Joint Actions. For instance, it was pointed out that Member States are the primary actors in these initiatives which brings multiple benefits. For instance, these activities of these actions reach a broader scope than the Centre’s activities as a result of its mandate. In addition, that they frequently constitute an effective bridge between technical expertise and the decision-making level, and promote solutions on how scientific outputs can be effectively integrated into Member State national policy, consequently, encouraging the sustainability of outputs at the national level.

The majority of consulted stakeholders with whom the topic was discussed therefore considered that weaknesses in the coherence and complementarity of these actions with ECDC’s activities should be addressed by strengthening the Centre’s involvement in them. For instance, it was highlighted by consulted stakeholders who were involved in the JAV, that ECDC had not been sufficiently involved in the action from the beginning of its establishment (e.g. during the conceptualisation of the terms of references). It was considered that this would have significantly contributed to minimising the risks for overlaps with the activities of the Joint Action, as well as promote complementary synergies. Secondly, (in line with the above analysis on the Centre’s involvement in the JAV work packages) it was highlighted that ECDC’s involvement in these Joint Actions, which was currently considered to be more ad hoc, should be more comprehensive and consistent. Finally, it was suggested that that ECDC’s role in securing the sustainability of the EU-level outputs of these Joint Actions should be further considered, in particular at their beginning. Nevertheless, a number of consulted stakeholders who were/are involved in relevant Joint Actions also highlighted the option of redirecting the financial resources dedicated to these actions towards the Centre, in order for the Centre to carry out the activities. It was considered this would be more resource-efficient, be more likely to secure the sustainability of results, and reduce the burden on Member States involved in Joint Actions.

It should also be noted that there is documentary evidence showing increasing awareness around the topic of ensuring synergies and avoiding duplications between ECDC’s activities and Joint Actions. For instance, in 2017, a MoU was signed with the EMERGE Joint Action.<sup>471</sup> In 2013 a “letter of intent” was signed by ECDC and the leaders of a Joint Action to network the EU P3 and P4 laboratories, to agree a modus operandi which would avoid “or minimise” identified duplications and overlaps.<sup>472</sup> Concerning the JAV, ECDC was requested to produce a document sharing its intended activities in the field of vaccination with Member States to help them define their contributions to the JAV prior to its establishment, in order to ensure alignment.<sup>473</sup> In addition, according to consulted stakeholder feedback, a co-operation agreement stipulating areas of collaboration is soon to be signed between ECDC and the leaders of the JAV, although it was pointed out that this would have been more effective at the beginning of the project.

Finally, the above analysis should be considered with efficiency considerations in mind, in terms of the amount of the Centre's resources being dedicated to supporting these actions (for further analysis see SEQ 21.3).

## EU Agencies

ECDC collaborates closely with other EU Agencies which work in related areas, via the exchange of information and cooperating on matters of mutual interest. Particularly, ECDC coordinates its efforts with the European Food Safety Authority (EFSA), the European Medicines Agency (EMA) and the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). Further, ECDC has signed Memoranda of Understanding (MoU) which explain the nature of coordination between the Centre and EFSA, EMA and EMCDDA. Furthermore, ECDC is active within the EU Agencies Network, promoting systematic interactions with its sister Agencies.<sup>474</sup> In addition, there is evidence of synergies and collaboration between other EU agencies being capitalised on, on an ad hoc basis. For instance, in 2015, ECDC consulted EFSA, EMA and ECHA for input and insights into best practices in relation to the development of their Independence Policy.<sup>475</sup> This supports the analysis under EQ 18, which shows an overall positive assessment of the coordination and coherence between ECDC and other EU agencies.

ECDC's collaboration with EFSA over the evaluation period has proved particularly successful. In 2013, in collaboration with the Commission, ECDC and EFSA produced Standard Operating Procedures for joint risk assessments in outbreaks of communicable diseases that are potentially linked to food sources.<sup>476</sup> Between the years 2013-2017 ECDC published 12 joint publications with EFSA covering Rapid Risk Assessments, surveillance reports and a joint scientific opinion. Finally, in 2017 the Centre signed a collaboration agreement with EFSA to establish a joint molecular typing database<sup>477</sup> and EFSA has actively participated in relevant ECDC events such as the EAAD.

The collected evidence shows that ECDC's collaboration with EMA was also effective over the evaluation period. For instance, ECDC and EMA were also both partners in the EU-funded ADVANCE project on developing EU-level monitoring for vaccine safety and vaccine effectiveness.<sup>478</sup> In 2013 and 2014, upon the request of EMA, ECDC also supported the Commission and EMA in their work on the use of antibiotics in animals, the use of colistin and glycolcyclines in animals as well as seasonal influenza vaccines, including coordination of public health work on post-marketing effectiveness and safety.<sup>479</sup> References to EMA activities or outputs were also identified in 15 RRAs produced over the evaluation period, and one case was identified in which an EMA expert formed part of the group of consulted experts for the redaction of an RRA.<sup>480</sup> EMA has also actively participated in relevant ECDC events such as the EAAD. These findings were supported by consulted stakeholders, including representatives of EU sister Agencies, ECDC and Member State actors (representing CCB roles, policy-making roles and learned societies).

There are also several examples of beneficial collaboration with the EMCDDA over the evaluation period. For instance, in 2014, ECDC and EMCDDA conducted a joint study visit to Latvia and the analysis and conclusions of the country visit were used by Latvia as an input to their medium-term national plan on HIV.<sup>481</sup> In 2017, for the first time, ECDC and EMCDDA organised a joint network meeting during World Hepatitis Week on topics including approaches on how Europe can improve the surveillance and response to hepatitis among people who inject drugs, and how progress towards the WHO targets for elimination can be monitored<sup>482</sup>. In addition, there is evidence of collaboration with the sister agency in the production of relevant Rapid Risk Assessments.<sup>483</sup> As discussed under EQ 18, ECDC and EMCDDA have also recently produced a joint guidance document<sup>484</sup>, which was highlighted as of high quality by consulted stakeholders.

Finally, there have been a number of initiatives involving joint collaboration between all three sister agencies. For instance, ECDC was involved in writing three joint reports in collaboration with EFSA and EMA on the topic of AMR over the reference period.<sup>485</sup>

## Scientific Bodies

Concerning the Centre's coordination with scientific bodies, there is evidence of its collaboration with relevant European scientific bodies active in the field of communicable diseases, and support was received from consulted stakeholders. For instance, 4 NGOs sit as observers in the ECDC Advisory Forum, representing the European Institute of Women's Health, the European Public Health Association (EUPHA), AIDS Action Europe and the European Association of Hospital Pharmacists (EAHP). When asked about the extent to which ECDC is ensuring appropriate collaboration with scientific bodies, 67% of the survey respondents who were aware of this subject (i.e. excluding those who responded "don't know" assessed it as "high" or "very high". Specific examples given by consulted stakeholders include the academic society ESCMID. However, it is also noted that the consultation with these societies seems to be limited and collaborative projects with learned medical societies, such as TB management with EWRS and joint support of EUCAST are viewed as beneficial. Stakeholders also note that collaboration with universities is

limited only to expert consultations and scientific collaborations within networks. It is suggested that collaboration could be enlarged to work more closely with a wider range of European scientific societies active in the field. Aside from the associations involved in the ECDC AF, the evaluation returned little evidence of ECDC's collaboration with scientific bodies, suggesting that there is scope for further activity in this area.

**In summary, ECDC is to a high extent ensuring appropriate coordination with WHO, GOARN and EU Agencies. Collaboration with WHO has clearly improved over the evaluation period, although finetunings remain to be made in the area of surveillance reporting. The Ebola outbreak evidenced a high degree of effective collaboration between ECDC and WHO GOARN. There are also numerous and increasing examples of effective collaboration initiatives between ECDC and its relevant sister agencies EFSA, EMA and EMCDDA. In relation to the EU Health Programme, evidence shows that there is a need to increase the coherence and complementarity of ECDC's activities with those of relevant Joint Actions to prevent duplications and ensure the sustainability of EU-level outputs from the Joint Actions. Finally, support was received from consulted stakeholders concerning the Centre's collaboration with scientific bodies in the relevant field. However, aside from the involvement of a number of NGOs in the Centre's AF, the evaluation returned little evidence of ECDC's collaboration with a diverse number scientific bodies, which suggests scope for expanding collaboration with these entities.**

**EQ 18: To what extent the Centre's activities are coherent with other EU Agencies/ programmes, other policies, and in particular, with the "One Health" approach or the sustainable development across the social (e.g. work on health inequalities, migrant population or hard to reach groups, etc.), environmental (e.g. work on climate change and vector borne diseases and zoonosis, etc.) and economic (e.g. reduction in the burden of diseases, etc.) pillars in the EU. What are the factors ensuring/ hindering coherence?**

*SEQ 18.1 To what extent are the Centre's activities coherent with other EU Agencies/ programmes?*

As already discussed under EQ 17, ECDC cooperates with a number of different EU Agencies, including EFSA, EMA and EMCDDA. The consulted stakeholders gave a positive assessment of the coordination between ECDC and other EU Agencies as a whole - while only 66% of the surveyed stakeholders were able to answer the question, of those 72% believe that ECDC is ensuring good coordination. Analysis of the interview data and clarifications offered to the survey question, shows that the consulted stakeholders are most familiar with the cooperation between ECDC, EFSA and EMA. The consulted stakeholders believe that the Centre is increasing its collaboration with other institutions and avoiding duplication of work or gaps in data. The decision to share the SPD for comments with other relevant agencies starting in 2017<sup>486</sup> was also seen as a positive development for improving coordination and coherence.

The **European Food Safety Authority (EFSA)** is one of the main cooperation partners of ECDC. In their MoU, ECDC and EFSA agree to increase cooperation and the exchange of scientific information on topics of mutual interest, such as food safety, control of communicable diseases and infectious diseases prevention. The consulted stakeholders agree that there is a strong coordination between the two organizations. The ECDC/EFSA/EMA JIACRA report was mentioned frequently as an example of collaboration in the area of AMR. Further, EFSA and ECDC have jointly produced risk assessments, such as 'The EU summary report on trends and sources of zoonosis, zoonotic agents and food-borne outbreaks'.

ECDC cooperates with the **European Medicines Agency (EMA)** in mutual interest areas such as vaccines, antimicrobial agents and resistance, antivirals and substances of human origin. Overall there was less awareness of the cooperation between the two agencies among the consulted stakeholders, but those in the know gave multiple examples of how they use joint outputs from the Agencies' cooperation in the area of vaccines and especially preparedness on pandemic vaccines.

ECDC's cooperation with **European Monitoring Centre for Drugs and Drug Addiction (EMCDDA)** is in the areas of monitoring, communicating on and preventing the spread of drug-related infectious diseases within the EU. While ECDC analyses trends in these diseases across the whole population, EMCDDA is a specialized information provider on drugs and focuses on specific drug-related risk groups such as injecting drug users. Among the consulted stakeholders familiar with the cooperation between the two Agencies, the specific reports and public health guidance on HIV/Hepatitis among drug users and within prisons, such as guidance on active case finding of communicable diseases in prison settings were highlighted as good results of the joint work.<sup>487</sup>

As discussed under EQ 17, there is room for more involvement of ECDC in Joint Actions under the Health programme.

**In conclusion, and in line with the findings under EQ 17, evidence shows that ECDC is ensuring sufficient cooperation with other relevant EU Agencies, including EFSA, EMA and EMCDDA. In addition, positive feedback was received from consulted stakeholders concerning the outputs of collaboration efforts between the Centre and its sister agencies.**

*SEQ 18.2 To what extent are the Centre's activities coherent with the "One Health" approach?*

The One Health approach is defined by WHO as 'an approach to designing and implementing programmes, policies, legislation and research in which multiple sectors communicate and work together to achieve better public health outcomes'.<sup>488</sup> In the EU policy context, Decision 1082/2013/EU provides the legal basis for the One Health aspects in the framework of health security, with a focus on animal health and food safety, preparedness and response to zoonotic threats, and antimicrobial resistance.<sup>489</sup> As such, the One Health approach fits well with ECDC's mandate under its Founding Regulation and under Decision 1082/2013/EU.

In addition, as discussed under EQ 17 and EQ 24, its activities are coherent with the One Health via its increasing collaboration with relevant EU sister agencies, particularly in relation to EFSA and EMA. ECDC's strong collaboration with EFSA has ensured its coherence with the One Health approach. The collaboration between the two have provided a more holistic approach to disease prevention and control and are able to expand the scope to animal, environmental and agricultural aspects. In addition, the evaluation period saw the production of three joint reports between ECDC, EFSA and EMA on the integrated analysis of antimicrobial consumption (AMC) and antimicrobial resistance (AMR). The Centre can therefore also be considered to be adopting a One Health approach to the area of antimicrobial resistance.

Another example of the coherence of the Centre's activities with the One Health approach can be found in a 2013 ECDC initiative in the pre-accession countries. The Centre established an observer role to the ECDC National Microbiology Focal Points (NMFP) forum for Western Balkan countries and Turkey representing national public health institutes, to increase awareness about the importance of public health microbiology in national communicable disease surveillance and control, thereby contributing to the preparation of these countries to participate in ECDC work. An evaluation of the initiative in 2014 found that it had helped enable One Health collaboration between participants and their colleagues from the human health and veterinary medicine sector.<sup>490</sup> This was supported by consulted stakeholder feedback, with 76% of survey respondents rating the extent to which ECDC is ensuring coherence with the "One Health" approach as "high" or "very high". Feedback received in the survey open comments, as well as from interviewees and focus group participants also supported this, and the Centre's collaboration with other EFSA, and EMA was the most frequently cited example.

**In conclusion, the Centre's activities are coherent with the "One Health" approach. Evidence of this can be found in an ECDC initiative in pre-accession countries, and has been facilitated by ECDC's increasing collaboration and initiatives in related areas with other EU Agencies such as EFSA and EMA.**

*SEQ 18.3 To what extent are the Centre's activities coherent with EU programmes and policies on sustainable development across the social, environmental and economic pillars of the EU?*

As a technical EU Agency, ECDC forms part of the legislative and policy landscape in the EU. As such, in implementing its activities in the field of communicable diseases and unknown threats to human health, it should ensure coherence with other EU objectives, programmes and policies on sustainable development, including EU social, environmental and economic pillars.

**Environmental Pillar**

EU policy under this pillar aims to protect the environment and seeks to minimise related risks to climate, human health and biodiversity. ECDC's activities in the area of vector-borne diseases (VBD) and zoonosis are therefore particularly coherent with EU priorities under this pillar. As discussed under SEQ 11.3, ECDC strengthened the focus of its activities in the area of VBD in its strategic multi-annual work programme 2014-2020, to enhance harmonisation on the topic. Furthermore, ECDC's communication activities in this area have proved successful over the reference period, and led to increasing awareness amongst stakeholders, especially national policy makers. In addition, several of ECDC's outputs (e.g. RRAs, evidence based guidance, West Nile virus and Mosquito map) in the area have provided added value for its stakeholders and have been used to inform national policy discussions and develop recommendations. Finally, as discussed under SEQ 4.5, ECDC's platform for food and waterborne diseases on its Epidemic Intelligence Information System (EPIS) constitutes one of the EPIS platforms with the highest recorded level of activities.

ECDC's collaboration and work with EFSA is effectively contributing to ensuring its coherence with EU environmental policies, by strengthening its work in the area of zoonosis. The Centre's initiative with EFSA has been assessed to provide strong added value to its stakeholders and ensuring a One Health approach in its activities (see analyses under EQ 17, SEQ 18.2 and EQ 24). In addition, the Centre can be considered to be contributing to the EU environmental pillar via its support to the EWRS, which also handles data concerning environmental threats since the implementation of Decision 1082/2013.

These findings were supported by consulted stakeholders feedback. For instance, 62% of the surveyed stakeholders who were able to assess this subject (i.e. excluding those who responded "don't know"), rated the extent to which the Centre's activities are coherent with programs on sustainable development in the environmental pillar as "high" or "very high". Multiple suggestions received by survey respondents in the open comments recommended increasing the Centre's work on links between climate change and vector-borne diseases.

Nevertheless, it should be noted that the evaluation found little evidence of ECDC's collaboration with the European Environment Agency (EEA). In addition, this was a point reflected within the EPHEUS evaluation of the EU/EEA surveillance of legionnaires' disease as an area for improvement. Specifically, the report recommended that ECDC should consider actively sharing the annual surveillance report with other EU Agencies, namely the EU-OSHA and the European Environment Agency, and explore potential collaborations or exchange of knowledge.<sup>491</sup> This is also relevant given that it constitutes an element in the ECDC strategic multi-annual programme 2014-202, which states that the Centre will "further initiate and evaluate projects of common interest, jointly carry out expert work, co-publish scientific outputs, and implement other joint activities under signed bilateral agreements", including the EEA.

### **Social Pillar**

Under the pillar of EU social policies and activities, the Union is placing increasing emphasis on reducing health inequalities among its citizens.<sup>492</sup> ECDC therefore places efforts on reducing health inequalities with its activities, and minimising the role of socio-economic factors the distribution of infectious diseases. As such, ECDC's activities cover and target vulnerable groups such as migrants and drug addicts.<sup>493</sup> An analysis of the Centre's publications over the evaluation period indicate that it has produced multiple outputs of relevance to this area. For instance, 12 of its publications related to infectious diseases and migrants, refugees, or asylum seekers. These included technical reports, Rapid Risk Assessments, an expert opinion and a special report on HIV in migrants, which was frequently raised as a positive example by consulted stakeholders.<sup>494</sup> In relation to drug addicts, 3 publications were found which concerned drug addicts, including 2 Rapid Risk Assessments which were developed in collaboration with EMA, and highlighted as an initiative effectively contributing to the One Health approach. The third publication was a special report on people who inject drugs, which was also frequently raised as a positive example by consulted stakeholders.<sup>495</sup> In addition to the above, ECDC produced a special report specifically addressing health inequalities, the financial crisis and infectious diseases in Europe.<sup>496</sup>

In terms of consulted stakeholder feedback, the majority were supportive of ECDC's coherence with EU programmes and policies in this area, although several considered that ECDC's outputs were relatively limited in the field. Specifically, out of the 299 survey respondents were able to respond to this question (i.e. excluding those who answer "don't know") 52% rated the Centre's coherence as "high" to "very high". Nevertheless, feedback indicates that the Centre's contribution in this area is considerable smaller than the other pillars, which some consulted stakeholders considered should be addressed. Suggestions for improvement included additional data collection and resulting guidance for the surveillance of migrant health, as well as more regular risk assessments on this issue.

### **Economic Pillar**

ECDC's contribution to the economic pillar is interpreted to mean the extent to which the Centre has contributed to reducing the economic burden of infectious diseases within the EU. The economic component of ECDC's contribution is difficult to assess, since it is an indirect effect. Nevertheless, the results of the evaluation support the Centre's contribution to the reduction of economic burden. Firstly, ECDC's activities have been assessed to effectively contribute to the prevention and/or control of communicable diseases. Secondly, ECDC is found to have added value by raising awareness in priority disease areas, including antimicrobial resistance and vaccination. Finally, there is evidence that a number of the Centre's activities provide added value by achieving lower costs for Member States as a result of its interventions, particularly by reducing the need for Member States to duplicate their activities and the multilateral collaboration it facilitates, and generated efficiencies through the multilateral collaboration it facilitates (see SEQ 11.4).

Finally, a review of ECDC publications (see Appendix C) shows that the Centre increasingly reported on the economic side of public health problems over the evaluation period. While these were relatively sporadic in the beginning of the evaluation period, the number of outputs increased substantially both in 2017 and 2018, with publications on the Use of Climate- and Weather-Driven Early Warning Systems to Reduce the Burden of Infectious Diseases<sup>497</sup> and the Impact of infectious diseases on population health using incidence-based disability-adjusted life years (DALYs).<sup>498</sup>

**In conclusion, ECDC's activities are coherent with EU programmes and policies on sustainable development across the environmental, social and economic pillars of the EU. The Centre's contribution to the field of vector-borne diseases, EPIS FWD platform, initiatives with EFSA and are all examples of its contribution to the EU environmental goals. However, the evaluation returned no evidence of collaboration initiatives with the EEA over the reference period. Strengthening collaboration with the sister agency was recommended in the EPHEUS evaluation of the legionnaires' disease surveillance. Concerning the social pillar, the Centre has published a number of relevant documents in line with EU policy priorities in the area, although some consulted stakeholders considered further efforts could be placed on this area. Finally, findings from throughout the evaluation support that ECDC has contributed to reducing the economic burden of communicable diseases in the EU. In addition, the Centre has increasingly reported on the economic side of public health problems over the evaluation period, contributing to its coherence with EU policy priorities under the economic pillar.**

### **EQ 19: To what extent is the agency fulfilling the Common Approach on EU Decentralised Agencies and its Roadmap?**

#### *SEQ 19.1 To what extent has ECDC implemented/is implementing relevant actions from the Common Approach Roadmap?*

The Common Approach on EU decentralised agencies agreed in July 2012 by the European Parliament, the Council and the Commission defines a more coherent and efficient framework for the functioning of agencies. The Roadmap adopted in the same year specifies the actions that are to be taken by the Commission, Parliament and the Agencies. Appendix E provides a detailed overview of the actions required from Agencies in the Roadmap and the corresponding assessment of how they have been implemented by ECDC. Overall, the analysis shows that most relevant actions have been implemented. The degree of implementation is in line with that of other Agencies.<sup>499</sup>

The following actions were deemed to be partly implemented or not implemented. The Centre could consider the possibility of increasing the multilingual accessibility of (parts) of its website through the use of automated translation tools. Although such tools do not guarantee 100% accuracy of the translation, especially in the case of specialised scientific text, the translations could still be relevant for content targeted to the general public which is in any case written in more accessible language. As regards the Centre's activities in the area of evaluation, it is for the Management Board to consider whether they need more input from the Centre in the line of ex-ante assessments and whether more detailed versions of the currently used opportunity value studies could be of interest to them.

<b>Common Approach Roadmap Action</b>	<b>Status</b>	<b>Comments</b>
<b>Websites</b> 24 Make websites as multilingual as possible and ensure they provide information necessary for (financial) transparency	Partly implemented	The website of ECDC is available only in English. ECDC's Communication strategy states that due to the high cost of translation, ECDC will provide content targeted at the expert community in English only. The digest of the annual report highlights is translated in all EU languages. The language policy of ECDC specifies that key publications for the general public are provided in all official EU languages, plus Icelandic and Norwegian, within available budget. The annual budget and final annual accounts are published on the website.
<b>Evaluation</b> 46 Ensure that evaluations cover the accessibility of agencies and the selection procedures for / independence of members of scientific committees and boards of appeal	Partly implemented	Independence policy ensures declarations of interest. The selection procedure is not covered explicitly in the scope of the present evaluation, but it was addressed under EQ 4.2 and EQ 22.1, which considered, respectively, the procedure for selection of RRA experts and assessed the functioning of the Advisory Forum.
<b>Evaluation</b> 50 Management boards to consider the need for ex-ante evaluation of activities/programmes	Partly implemented	There is no reference to considerations of ex-ante evaluations in the MB meeting minutes. There is no practice of requesting such, nor is there a mechanism for conducting such on ECDC's initiative and discussing them in the MB. The opportunity value studies carried out systematically by ECDC have some elements of ex-ante assessments, but they are

Common Approach Roadmap Action	Status	Comments
		done for the management of ECDC and are not shared with the MB.
<b>Follow-up to internal and external audits</b> 59 Inform the partner DG and DG Budget of the results of audits of the European Court of Auditors, as well as of the measures taken to meet the recommendations of the discharge authority and those of the Court	Partly Implemented	The partner DG (DG SANTE) is part of the Audit Committee. DG Budget is not part of the Committee and there is no formal mechanism to inform them.
<b>Budget process and execution</b> 83 Improve the management of commitments to align them with real needs	Partly implemented	The management of commitments can be measured through the rate of outturn. The Centre has recorded significant outturns in the years under evaluation, but the trend has been towards reduction of these. (See EQ20).

A recent report for the European Parliament noted that ECDC is one of the 10 EU Agencies whose legal basis does not require the involvement of the Parliament in the approval of its multi-annual or annual programme.<sup>500</sup> Although this is ensured in practice through the involvement of Members of the European Parliament in the Centre's Management Board, should the Founding Regulation of ECDC be revised, this aspect should be addressed.

*SEQ 19.2 To what extent changes to processes and working arrangements as a result of the Roadmap have been implemented?*

The main aspect of the Common Approach Roadmap which led to major changes in the organisation of processes and working arrangements was the requirement to adopt the new planning tool – the Single Programming Document (SPD). This led to a major revision of the processes for planning. While the Agency is complying with the new process (steps, timelines, responsibilities), according to representatives of ECDC, the fact that the process requires multi-year parallel planning remains a challenge. For other areas, the Roadmap summarised requirements and practices that pre-existed and which EDCC was already implementing. For example, ECDC was already quite an advanced user of activity-based budgeting (ABB), so complying with this requirement had no impact on the Centre.

**In summary, ECDC is considered to mostly fulfil the requirements of the Common Approach on EU Decentralised Agencies and its Roadmap. In order to address actions which are only partly implemented, the Centre could consider the possibility of increasing the multilingual accessibility of (parts) of its website through the use of automated translation tools. As regards the Centre's activities in the area of evaluation, it is for the Management Board to consider whether they need more input from the Centre in the line of ex-ante assessments and whether more detailed versions of the currently used opportunity value studies could be of interest to them. Finally, should the Founding Regulation of ECDC be revised, it should include the requirement that the European Parliament is involved in the approval of its multi-annual or annual programme, as is currently done in practice.**

# Evaluation of Efficiency

**EQ 20: To what extent has the Centre efficiently spent and managed its resources (human and financial) to achieve the objectives set out in its work programmes during the 2013-2017 period?**

*SEQ 20.1 To what extent has the Centre efficiently spent and managed its resources (human and financial) to achieve the objectives set out in its work programmes during the 2013-2017 period?*

## Percentage of the executed budget commitments

A key indicator of efficiency is the rate of budget committed and executed. A high rate of execution of budget commitments should indicate that the Centre is efficiently capitalising on the financial resources at its disposal to implement its activities and achieve its objectives. As seen in Figure 74, the percentage of the executed budget commitments for the C1 Fund Source (current year appropriations) over the five years averaged 97%. To compare to a similar EU decentralised agency, ECHA achieved 98% average of total executed budget commitments over the same period<sup>501</sup>.

Figure 74 Fund Source C1 execution of commitments and payments<sup>502</sup>



It should be noted that the figures from ECDC notably improved over the last two years of the evaluation, ranging from 92.3% executed commitments in 2013 to 99.8% in 2017. The positive results in 2017 were largely attributed to the implementation of the Centre's commitment and payments forecasting application<sup>503</sup>. Even more than executed budget commitments, the goal for percentage of payments executed in the same year as the commitment should be as close as possible to 100% to minimise accrual. As can be seen in Figure 74, the Centre's performance in this area has been weaker compared to the commitments,

with an average of 78% of payments execution reached. In comparison, the percentage of payment executions for ECHA over the same period reached 87%<sup>504</sup>.

## Rate of cancellation of payment appropriations

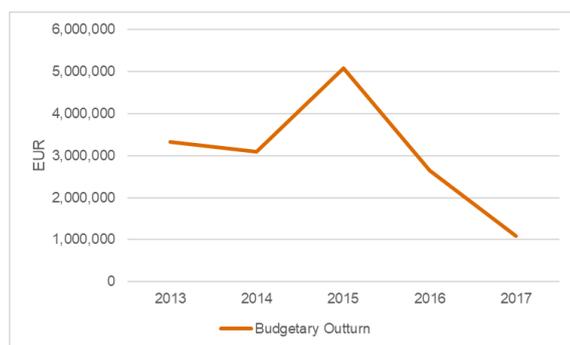
A similar indicator for assessing sound financial planning relates to the rate of cancellation of payment appropriations. Although the EC's Financial Regulation allows for budget appropriations granted for a given year to be carried over to the next year under certain conditions, excessive levels and cancellations of these carry-overs are in contradiction with the regulation's budgetary principle of annuality. This is because it is considered that large carry-overs can indicate delays in the implementation of work programmes or procurement plans, and high rates of cancellation may threaten the achievement of objectives. As can be seen in the following table during certain years ECDC had a high rate of cancellation of payment appropriations (over 5%), although this was as a result of external factors outside the Centre's control.<sup>505</sup> The last two years of the evaluation saw consistently low levels.

Table 8 ECDC rate of cancellation of payment appropriations 2013-2017, in EUR

	2013	2014	2015	2016	2017
Payment appropriations	58,315,000.00	60,486,000.00	58,451,950.00	58,247,650.00	58,042,653.00
Cancellation	4,514,798.50	746,882.81	3,476,758.78	1,152,925.78	127,885.27
<b>Rate of cancellation</b>	<b>8%</b>	<b>1%</b>	<b>6%</b>	<b>2%</b>	<b>0%</b>

## Rate of budgetary outturn

Figure 75 Budgetary outturn 2013-2017



Another indicator of efficiency is the rate of budgetary outturn – a low outturn should indicate an efficient and timely use of the Centre’s financial resources, correlated to the implementation of its activities and achievement of its objectives. As seen in Figure 75, the Centre’s average budgetary outturn over the evaluation period was more than EUR 3 Million, equating to an average of 5% budgetary outturn, which indicates underspending. The peak in 2015 is largely the result of an unforeseen external event<sup>506</sup> and a trend to a decreasing budgetary outturn over the last two years. In comparison, a partner EU agency (EFSA) had an average budgetary outturn

of 0% over the same period.<sup>507</sup>

## Average vacancy rate

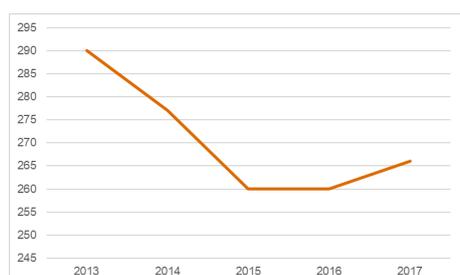
In addition to budget execution indicators, it is important to consider indicators related to human resource management. A low average vacancy rate implies that the Centre has efficiently managed its human resources by fulfilling its establishment plan to achieve its objectives. As can be seen in the following table, ECDC was in line with its target vacancy rates in every year except 2016. This anomaly is explained due to the result of a European Court of Justice (ECJ) judgment, which meant ECDC was unable to publish posts on the EPSO website until an issue of translating vacancy notices into all EU languages was clarified, which severely affected ECDC’s ability to fill posts in the latter part of 2015 and in the first quarter of 2016. Furthermore, 30 % of vacant posts in 2016 were filled by internal candidates successful in open competitions, generating additional vacancies<sup>508</sup>. In line with the previous findings, there is marked improvement in the performance of this indicator in the final year of the evaluation.

Table 9 ECDC target and actual vacancy rates 2013 - 2017

	2013	2014	2015	2016	2017
Target vacancy rate	8%	8%	8%	5%	5%
Actual vacancy rate	3.1%	4%	6.3%	9.3%	2%

Figure 76 ECDC staff numbers 2013 - 2017

In addition, the number of total ECDC staff decreased over the evaluation period, in line with the EC requirements for a 5% cut in headcount until 2018 (see Figure 76). Indeed, by 2017, despite a slight rise in headcount in 2017 compared to 2016, the total number of ECDC staff had decreased by 8% in comparison with 2013.

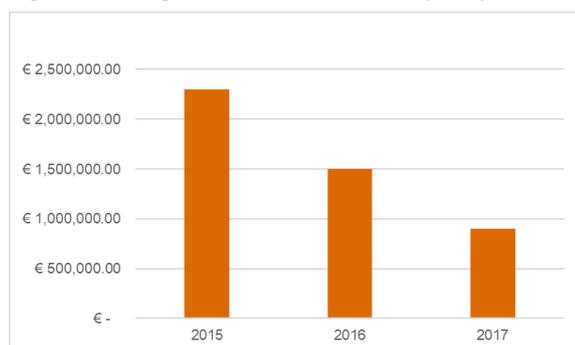


It can be concluded that ECDC has efficiently managed its human resources both in terms of achieving its own targeted establishment plans as well as complying with EC requirements.

## Budget transfers

Having assessed ECDC’s management of resources at a macro level, we analyse how efficiently it managed its resources internally in order to achieve its objectives. To do so, we analyse budget transfers authorised by the Executive Director and the allocation and consumption of Title 3 budget across ECDC’s units and disease programmes over the reference period<sup>509</sup>. A small degree of variation between the budget allocated to and consumed by the different activities would indicate that ECDC is efficiently planning its resource allocations and the different units/disease programmes are efficiently utilising said resources.

Figure 77 Budget transfers 2015-2017 (EUR)<sup>510</sup>



The Executive Director has the right to amend the budget within the limitations of Article 27.1 of ECDC's Financial Regulation, in order to improve the efficiency of the funds allocated to ECDC. As can be seen from Figure 77, the amount of budget transfers has gone down since 2015, which is an indication that the overall planning of resources has improved in terms of accuracy.

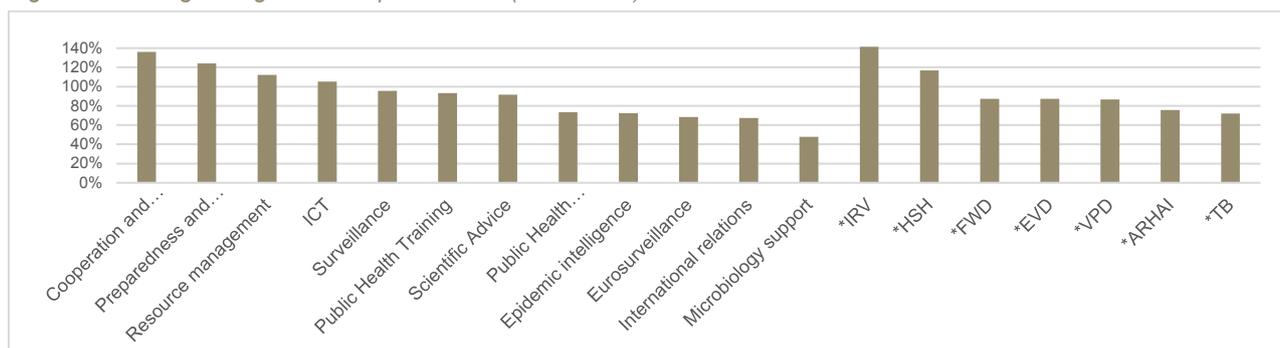
### Average budget consumption

Looking further into budget consumption between the units and disease programmes, there is a degree of variation, at times surpassing a 20% variation from planning, the limit defined by EC financial management as best practice in financial planning. Specifically, as can be seen in Figure 78, a number of units consumed far more than the initial budget planned for them on average over the evaluation time period: cooperation and collaboration<sup>511</sup> (136%), preparedness and response (124%) and resource management (112%). Concerning the discrepancies in cooperation and collaboration, this was primarily a result of an unforeseen postponement of an event with the European Parliament in 2014 and unplanned additional costs related to organised events like the European Health Forum Gastein. It should be noted that additional resources were planned for this event in 2017 following a review of the consumption in the previous years. In relation to the preparedness and response section, this is primarily due to the addition of tasks - potentially due to the implementation of Decision 1082/13 (see SEQ 20.2)<sup>512</sup> - over planning, unplanned costs (e.g. Ebola outbreak) and the cancellation of certain activities.<sup>513</sup> As well as the implementation of additional, unforeseen tasks were added to the unit's activities in 2014 –Finally, concerning resource management, insufficient resources were allocated for the management of a library in 2016 and 2017.<sup>514</sup>

The following units on average largely under-consumed the resources planned for them over the reference period; microbiology support (48%), international relations<sup>515</sup> (67%), Eurosurveillance (68%). Concerning microbiology, this was primarily due to the postponement of a meeting and the reallocation of resources to the Director's office for the organisation of the Joint Strategy Meeting in 2015, as well as under-consumption for planned activities in all years.<sup>516</sup> Nevertheless, it should be noted that the budget allocated to the microbiology support unit was reduced in 2017 as a result of the trend of under-consumption identified in the three previous years. The under-consumption in the international relations unit generally relates to leftovers and failed procurements.<sup>517</sup> Concerning Eurosurveillance, this was mostly due to the postponement of activities, which led to the transfer of their budget to the ICT unit.<sup>518</sup>

Less variation is observed in the consumption patterns of disease programmes. Nevertheless, there is still room for improvements in budget allocation to the programmes, to minimise over- and under- consumption of resources. As can be seen in Figure 78, several programmes on average consumed more than the initial budget allocated to them over the evaluation period. Notably, the Influenza and other Respiratory Viruses (IRV) programme, which on average consumed 141% of its allocated budget.<sup>519</sup> On the other end of the spectrum, the Tuberculosis programme consumed an average 72% of its budget over the same period.<sup>520</sup> Nevertheless, it should be noted that the budget allocated to the Tuberculosis Programme was slightly reduced as a result of the trend of under-consumption identified in the three previous years.

Figure 78 Average budget consumption Title 3 (2014-2016)<sup>521</sup>



The results suggest that a proportion of the discrepancies in resource planning stem from external factors such as the implementation of Decision 1082, discussed above. Nevertheless, cases of inefficient resource planning were also identified, although there was a trend towards ensuring the necessary reallocation of budget towards the later years of the evaluation, based on reviews of consumption patterns. This likely contributed to the Centre's overall improved performance in terms of efficiency towards the end of the reference period (see beginning of analysis).

To assess how efficiently the Centre has spent its resources to achieve its objectives, we also perform a case study mapping the **inputs required to produce certain outputs** in two of ECDC's core activities over the reference period. If, for instance, there is a trend for the inputs of an activity to increase or remain stable while the outputs decrease, this would point to an inefficiency in ECDC's resource management, and vice versa. The activities chosen as case studies were Scientific Advice (see Box 1) and Eurosurveillance (see Box 2), as they constituted two of the activities with the most consistent and quantifiable output data over the reference time period.

### Box 1 Scientific Advice

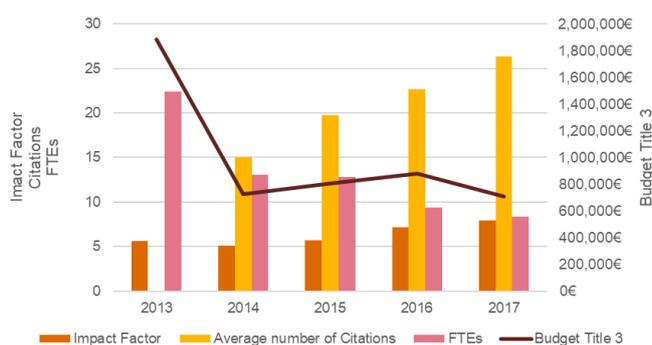
Over the period of the evaluation, the outputs of Scientific Advice activities increase, while the required input decreased. Concerning the inputs, as can be seen in the following figure, FTEs allocated to Scientific Advice activities drastically decreased at the beginning of the evaluation period and continued to see a steady decrease thereafter. In addition, the budget allocated to Scientific Advice operations (Title 3) also decreased between 2013 and 2014 but remained steady henceforth.

At the same time, the outputs of the Scientific Advice activities increased. This is demonstrated through the incremental growth in their Impact Factor (IF) from 5.6 in 2013 to 7.91 in 2017. In addition, the average number of citations of scientific publications in the area of the priorities and mandate of the Centre grew from 15 in 2014 to 26.31 in 2017.

Further, insight from stakeholder feedback suggests that this is not linked to a reduction in quality of these outputs. Based on the findings of the annual stakeholder surveys conducted during the evaluation period, Member States reported an average of 86% satisfaction with the usefulness of the scientific advice provided by ECDC<sup>522</sup>, scoring higher than any other output included in the survey.

The explanation for this increase in output, despite the decrease in input can thereby be explained as resulting from several efforts to improve the efficiency of the operations under this activity. This is indeed evidenced in the improvements and streamlining reported on in the Annual Reports of the Director over the period of the evaluation. For instance, ECDC standardised its scientific outputs and streamlined the development of its output by developing a package of tools that enable a more rigorous and consistent approach to the grading of public health evidence. The most recent effort under this activity is the initiative to establish a process management tool for its scientific work and advice 'the ECDC Advice Repository and Management System' (SARMS).

Figure 79 Scientific Advice inputs and outputs 2013-2017



The Centre was therefore able to increase its output and impact under this activity without significant additional input, pointing to improvements in the efficiency of its operations.

### Box 2 Eurosurveillance

Over the years 2014-2017, the inputs for Eurosurveillance activities increased. As can be seen in the following figure, despite a significant decrease between 2016 and 2017<sup>523</sup>, the revenue dedicated to Title 3 activities under Eurosurveillance increased. In addition, the number of FTEs dedicated to Eurosurveillance grew from 5.5 in 2014 to 8.7 in 2017.<sup>524</sup>

At the same time, the outputs of Eurosurveillance in terms of publications decreased while the average number of submissions increased. However, despite this decrease in publications, Eurosurveillance's Impact Factor increased from 4.65 in 2014 to 7.2 in 2017, consistently outperforming compared to the target set and putting it amongst the top-ten infectious disease journals.<sup>525</sup>

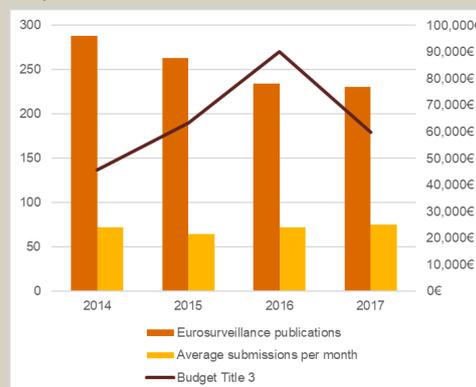
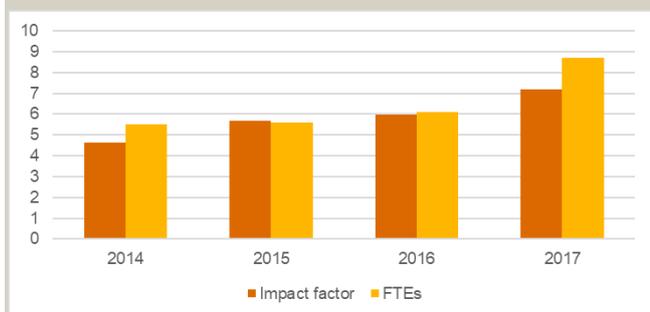
There is evidence in the Annual reports published during the evaluation timeframe of efforts to promote the journal and increase awareness of it. Specifically, efforts were made over the years to promote the journal and attract new readers and contributors through presence at international conferences and meetings. In addition, efforts were made in 2015-2017 to improve the Eurosurveillance publication platform, including its ICT maturity and performance. For instance, in 2016 a content management system was implemented with modern functionalities to allow editors to work more efficiently.

These conclusions are further supported by stakeholder feedback through the targeted survey and stakeholder interviews. Eurosurveillance was reported as one of the most used ECDC outputs by targeted survey respondents, only behind 'Tools and Guidance'.

In summary, although the budget and FTEs allocated to the Eurosurveillance activity have increased over the evaluation period, the outputs and impact resulting from this activity appear to have simultaneously increased to an equal if not greater extent. This appears to be greatly due to an increasing recognition of the Journal by its stakeholders thanks to promotion efforts as well as IT improvements aimed at enhancing its user-friendliness. Therefore, we can conclude that the resources dedicated to the Eurosurveillance activities have been efficiently organised and managed.

Figure 80 Eurosurveillance inputs and outputs 2014-2017

Figure 81 Eurosurveillance impact factor and FTEs 2014-2017



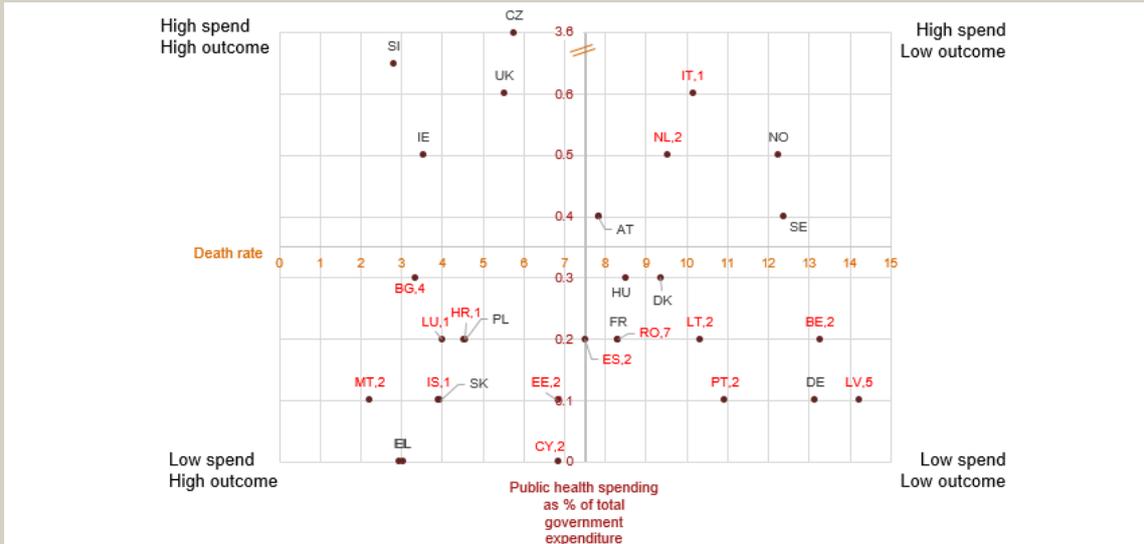
In order to analyse the efficiency with which ECDC uses its resources, a variation of a Cost-Benefit Analysis for public health spending - a Spend and Outcome model – was applied<sup>526</sup>).

### Box 3 Spend-outcome analysis

The Spend-Outcome model is based on a tool used by Public Health England to compare the spending and outcomes on a given public health programme in different English counties. The results are plotted in four groupings/quadrants - i.e. low spend-low outcomes, high spend-high outcomes, low spend-high outcomes, high spend-low outcomes. The low-high range is determined by the lowest and highest levels encountered in the analysed sample. In the case of outcomes, a high outcome stands for low level of the indicator for burden of communicable diseases that is analysed. Counties which demonstrate disproportionate spend and outcomes are urged to look closely into the delivery mechanisms for the programme and find ways of improving its efficiency. In the case of ECDC, the model was applied by comparing spending on public health in the EU countries with different indicators of public health outcomes, which stand as proxies for the effectiveness of public health services in the country and the burden of infectious diseases.<sup>527</sup> The Centre does not use any indicators that can be used to measure the full range of support it provides to individual Member States, so the spend/outcome data was compared to data on ECDC activities which are of direct support to EU countries - its country missions, support with laboratory capacity and training activities. The results of the model are a useful indication of whether the centre is directing its resources to the countries most in need of support to improve health outcomes.

In Figure 82, the analysis is applied to country missions/visits carried out by ECDC in the period 2013-2017 and the spend/outcome performance of EU countries in terms of share of public health spending of total government expenditure and the death rate from infectious diseases, which is considered a suitable proxy for the overall quality of healthcare in the country. As discussed under SEQ 4.7, the usefulness of ECDC country visits/missions is assessed positively by national stakeholders. As can be seen from the figure, 8 out of the 15 countries with above average rate of death from infectious diseases (low outcome) hosted ECDC missions/visits ECDC in the period 2013-2017. Out of these, 6 countries also have less than average level of public health spending. In total, 23 visits were carried out in these countries, which represents 62% of all visits/missions in the period. This indicates a good match between the countries with highest needs and the support provided by ECDC.

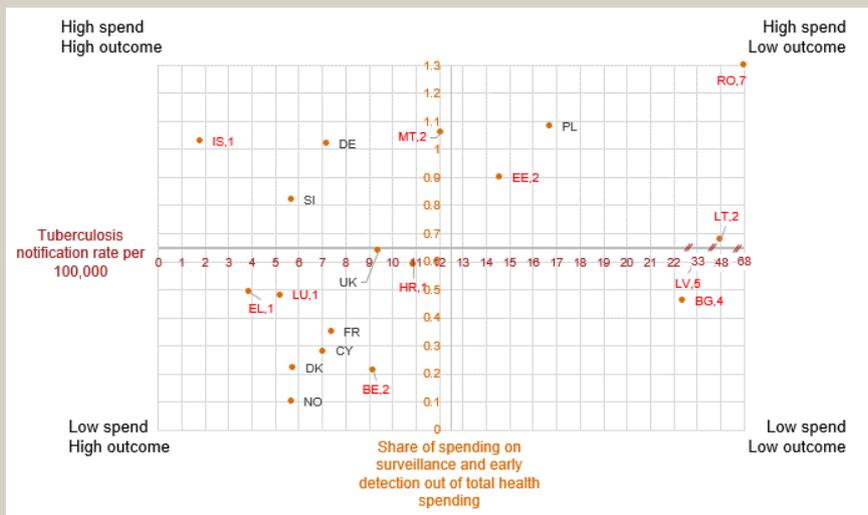
Figure 82 Public health spending (% of total government expenditure 2016) / Deaths from certain infectious diseases\* per 100 000 inhabitants (2016)



Note: 1) Countries in red are countries where ECDC carried out support missions / visits during 2013-2017, number in label indicates the number of visits carried out.  
 2) Certain infectious diseases are those listed under ICD code A00-A40 and A42-B99, which include TB, HIV and Hepatitis (Eurostat, Deaths related to infectious diseases [hlth\_cd\_ido])  
 3) Data on the number of deaths form infectious diseases for France and Denmark is for 2015 (no data available for 2016)  
 4) Public health spending data based on public health services expenditure reported in Eurostat - General government expenditure by function (COFOG) [gov\_10a\_exp], data not available for Greece

A similar conclusion can be drawn from the analysis of public health spending on surveillance and early detection of infectious diseases and the incidence of tuberculosis in different countries. Tuberculosis is high priority infection disease and its notification rate reflects how good the surveillance and early detection system is at national level. Your interpretation is appropriate - i.e. that ECDC efforts are targeted more in those countries that appear to have a higher burden of disease but may be under-resourced (as reflected by Public Health spend). Close to 50% of all missions/visits carried out in the 2013-2017 period were in the four countries with lowest outcomes in terms of tuberculosis cases per 100,000 inhabitants – RO (7), LT (2), LV (5), BG (4). These are also WHO priority countries for TB control.

Figure 83 Spending on Epidemiological surveillance and risk and disease control programmes, and early detection disease programmes (2016) / Notification rate of Tuberculosis cases per 100 000 people (2016)



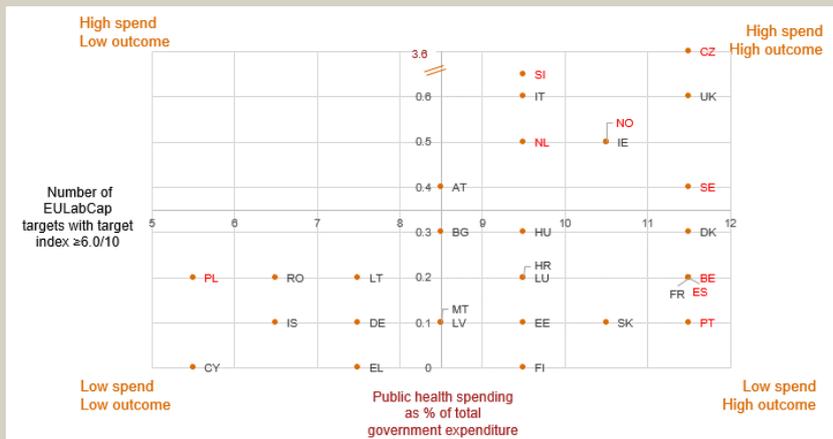
Notes: 1) Countries in red are countries where ECDC carried out support missions / visits during 2013-2017, number in label indicates the number of visits carried out.  
 2) Spending data from Eurostat - Health care expenditure by function [hlth\_sha11\_hc], the data is no available for The Czech Republic, Estonia, Spain, Italy, Hungary, Netherlands, Austria, Portugal, Slovakia, Finland, Norway. Data for Malta for 2015  
 3) Tuberculosis incidence data for 2016 from ECDC Surveillance Atlas

Another relevant measure of the efficiency of ECDC's allocation of its resources can be identified in the support provided by the Centre to countries in the area of laboratory capacity and specifically the use of Whole Genome Sequencing. The 2013 LabCap report noted that no EU/EEA countries reported the use of whole genome sequencing-based typing for routine surveillance of human pathogens. According to the latest survey, the number stood at 15 in 2016, with 12 more countries reporting plans to introduce WGS in their national surveillance schemes. A review of ECDC data on the number of samples sent by individual countries for support with WGS for the period 2015-2018, shows that a total of 3458 samples were sent to ECDC. The average number of samples sent per country is 108 and median value is 43, indicating the big variance between top senders like Netherlands and Belgium, which sent more than 500 samples each, and countries like Latvia, Lithuania and Bulgaria which for this period sent around 20 samples each.<sup>528</sup> There are different possible reasons for differences in levels of WGS support requested:

- Some countries are performing WGS themselves (i.e. do not need support through ECDC);
- Some countries do not participate actively in multi-country outbreak investigations in (EPIS FWD), i.e. it is not known if they have associated cases to those notified in the system;
- Countries with very little typing capacity are not able to screen for relevant samples for WGS for the most common *Salmonella* serovars (i.e. *Salmonella* Enteritidis and *Salmonella* Typhimurium).<sup>529</sup>

Plotting the countries with above-average number of requests (in red) in the following figure shows that they are can be found mostly in the matrix quadrants related to high outcomes (a high number of LabCap targets exceeding 6.0 is high outcome). Only one country with low spend/low outcome (Poland) has made extensive use of the support offered. At the same time, some of the highest performers (UK, France, and Denmark) have made little or no use of ECDC's support, which can be considered an efficient outcome for the purpose of the analysis. Although there may be different explanations for low number of requests (see above), the low use of the support by countries in the low spend quadrant indicates that there might be room for ECDC to provide them with more support that can increase their use of EPIS and support the development of their typing capacities.

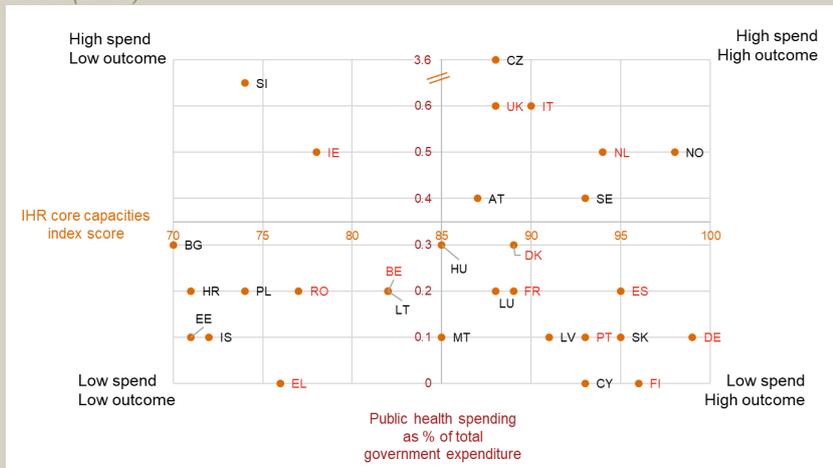
Figure 84 Public health spending (% of total government expenditure 2016) and number of EULabCap targets index  $\geq 6.0/10$  (2016)



Notes: 1) There are 12 targets for the EU LabCap index. 'Insufficient country capacity' is defined as an EULabCap index score of less than 6 for at least 9 targets. The number of targets met by each country is based on the results of the 2016 LabCap survey.  
2) Countries in red are countries that for the period 2015-2018 have sent higher than average number of samples to ECDC

Finally, the cost-outcome model is also applied to the analysis of the nationalities of participants in the ECDC Fellowship programme (2007-2017). Here the applied measure of outcomes is the score of each country on the WHO IHR index for core capacities in public health. High outcome is considered to be a score above the average score for EU/EEA countries of 85. As part of its objectives, the Fellowship programme is meant to contribute to enhancing the capacity for effective field investigation and communicable disease control at national and community level. The average number of graduates per country (based on the nationality of graduates) is 8. As can be seen from the following figure, most countries which have above average level of participation in the programme (marked in red) are in the high outcome quadrants of the model. This indicates that there is room to increase the usefulness of the programme for countries with lower core capacities and through that increase its efficiency.

Figure 85 Public health spending (% of total government expenditure 2016) and country score on IHR Core capacities index (2016)



Notes: 1) IHR core capacities index is the average of 13 International Health Regulations core capacity scores, the possible value range equals 0-100. The values for observations on this graph are within the 70 to 100 range, which covers all EU countries.  
2) The index score of Ireland, Germany, Finland, Bulgaria and the Czech Republic is based on 2015 data, the score of Greece – on 2010 data.  
3) Countries in red are countries that have higher than average number of participants in the Fellowship programme since its inception

In summary, ECDC appears to have efficiently managed and invested its resources over the reference evaluation period. At the macro level, the Centre there is evidence that the Centre has efficiently managed its financial and human resources, despite slight variations in the rate of cancellation of payment appropriations, as a result of external factors outside of the Centre's control. There was a trend for improved performance in terms of efficiency towards the latter years of the evaluation.

*SEQ 20.2 To what extent has ECDC integrated efficiently the tasks entrusted to it through Decision No 1082/2013/EU?*

Information provided by ECDC shows that the human and financial resources committed specifically to activities related to Decision 1082/2013 in 2015 and 2016 were relatively minor (below EUR 100,000 and less than 2 FTEs), with more resources committed in 2017 (EUR 246,435, 3.27 FTEs) when the Centre was involved in the reporting mechanism under Article 4 of the Decision. Other activities of the Centre (e.g. capacity building and support to Member States in strengthening their public health preparedness capabilities) also contribute to the implementation of the Decision.

As discussed under SEQ 4.1, the evaluation did not identify any negative consequences from the reallocation of resources to carry out the additional tasks allocated to the Centre as a result of the Decision 1082/2013. However, there is evidence that the overconsumption of the preparedness and response unit over the evaluation period, identified under 20.1, may have resulted from additional tasks stemming from the Decision. Specifically, in 2014 additional budget was reallocated to the unit to carry out activities, which had not been foreseen in the initially allocated budget<sup>530</sup>, and which were identified by ECDC staff as possibly resulting from the Decision 1082/2013.

**In conclusion, although the previous analyses showed a positive overall performance of the Centre in terms of efficiency, and did not identify any negative consequences from the reallocation of resources to carry out the additional tasks allocated to the Centre as a result of the Decision 1082/2013, evidence suggests that the integration of tasks entrusted to the Centre through the Decision possibly induced slight inefficiencies in resource planning for the preparedness and response unit in 2014.**

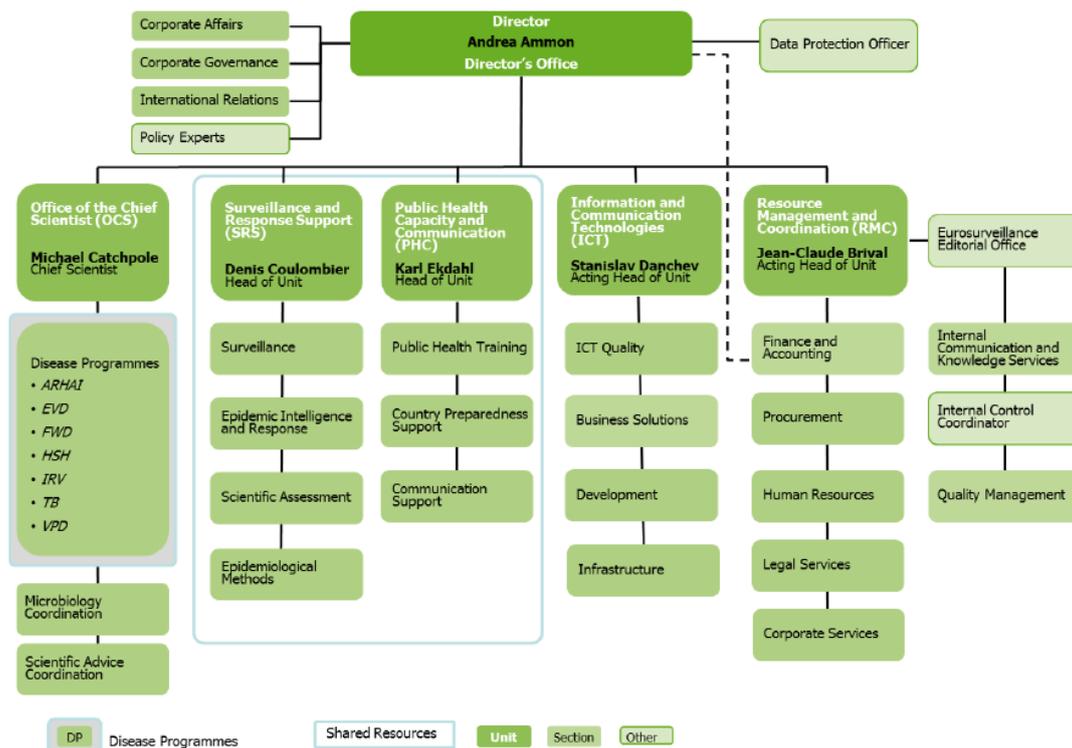
*SEQ 20.3 To what extent are the size and structure of the organisation appropriate?*

Over the period of the evaluation, ECDC had an average of 270 staff, organised within five units and seven disease programmes. As can be seen in Figure 86, the Centre is structured in a matrix in which seven Disease Programmes constitute the 'horizontal' dimension of the matrix. Supporting these disease programmes are five units which offer cross-cutting public health functions to the disease programmes such as surveillance, scientific assessments, public health training, etc.

ECDC's organisational structure is thus aligned with the core tasks of the Centre, as assigned by its legal mandate, as well as its current priorities. The different units of the Centre represent the core activities of ECDC, as defined in its strategic multi-annual programme 2014-2020 - Surveillance, Epidemic intelligence, Preparedness and response, Scientific advice coordination. Public health training and communication, and Microbiology.

These activities are then organised within horizontal disease programmes, aligned with the priorities of the Centre. Finally, the organisation is supported by cross-cutting support functions (ICT and RMC). The structure should therefore be appropriate for ensuring the Centre's activities are aligned with its long-term objectives and strategy.

Figure 86: ECDC organisational structure, June 2018



Source: Annual Report of the Director, 2017

An external assessment of ECDC's organisational performance, commissioned by ECDC in 2017, found that the organisation structure was not optimal for organisational efficiency, and that there was discontent raised amongst the Centre's staff concerning the matrix structure.<sup>531</sup> Stakeholder feedback under the current evaluation also indicated that there was discontent with the matrix structure, although the analysis under SEQ 20.1 did not confirm that it was impacting on the Centre's efficient management of its resources.

Since the implementation of the matrix structure<sup>532</sup>, no agency-wide reorganisations have taken place at ECDC. Over the period of the evaluation, only a few within-unit reorganisations took place in order to further streamline the different unit activities. For instance, in 2013, the Resource Management and Coordination Unit was reorganised and its governance revisited. In addition, a full internal restructuring and integration of ECDC procurement and finance activities took place in 2014 and was used as an opportunity to further clarify roles and responsibilities as well as increase compliance and reliability.

The lack of reorganisations during the reference period may result from the fact that the implementation of the matrix structure occurred fairly recently and efforts were therefore concentrated on consolidating, and stabilising the effects of the change. This is supported by evidence from the second ECDC External Evaluation published in 2014 and the conclusions of the external assessment of the performance of the Centre. According to both sources, the organisational change incurred some unintended consequences in terms of the satisfaction of ECDC internal and external stakeholders.

Specifically, the external assessment, which falls within the current evaluation timeframe, found that there is widespread discontent with the matrix structure amongst ECDC staff and the current organisational structure is not conducive to efficient working, as a result of:

- Limited cooperation and coordination of activities between units;
- Fragmentation / duplication of certain operational as well as administrative functions;
- An excessively hierarchical structure, which is unconducive to the desired flexibility;
- The workload and frustration resulting from disputes over resources.

In addition, it was identified that the underlying driver behind this problem was due to the lack of clear corporate strategy and vision for ECDC. Interviewees and focus group participants of the external assessment felt that what was defined in relevant documents does not provide clarity on the Centre's purpose, main objectives. The lack of a

coherent link with an overarching corporate strategy was identified as exacerbating a lack of coherence and consistency between the different sections of the matrix as well as priority-setting and resource allocation.

To tackle these issues, it was recommended that a review of the organisational matrix structure should be undertaken to clearly establish which 'dimension' ultimately drives the work in a given area. Nevertheless, this exercise should only be undertaken when ECDC has established a clear sense of corporate, strategic priorities, which the performance assessment found to be currently lacking. This would provide an overarching strategy to give staff a clearer sense of purpose, signal that change is coming, and provide a framework to guide improvements in other areas<sup>533</sup>.

These findings are supported by feedback received during interviews with ECDC senior staff who were of the belief that the Centre's current size and structure was appropriate. The majority of these interviewees reported being aware of the existing concerns and grievances voiced by ECDC staff concerning the matrix structure. However, when questioned on the sources of these grievances, the most frequently mentioned causes were not a direct result of the matrix structure but other inefficiencies such as a lack of collaboration and communication between units resulting in the duplication of tasks, areas of fragmentation, the inflationary creation of groups and group leaders, effective planning processes and a lack of clarity on the strategic objectives of the set-up of the matrix organisational structure in itself. As such, it was expressed by the majority of interviewees that they believed further fine-tuning and progress on these issues were the solution going forward rather than an entire deconstruction of the matrix structure.

It should be noted that ECDC has begun to take steps in this direction as a result of the external assessment of the performance of the Centre. For instance, in its latest programming document, the ECDC commits to implementing an 'organisation-wide management and enterprise architecture framework' in order to achieve; *"the alignment of the ECDC strategy with operational excellence, align organisational behaviour to the strategy, increase the effective and efficient use of resources in the Centre"*<sup>534</sup>. The external assessment of ECDC's organisational performance is now in its third phase, during which the recommendations established are being developed and tested internally.

**In summary, the organisational structure of ECDC is visibly in line with its core tasks and strategic priorities. Nevertheless, improvements remain to be made to establish clear strategic objectives as a basis for the revision of the matrix organisational structure, in order to further optimise operational efficiency.**

*SEQ 20.4 To what extent have the Centre's organisational structure, governance and operations (including the implementation of activity-based budgeting) been conducive to economies of scale in ECDC and competent bodies?*

As discussed under SEQ 20.3, the results of an assessment of ECDC's organisational performance indicate that the current organisation of ECDC as a matrix organisation is causing fragmentation and/or duplication of certain activities. Specifically, the results of this assessment indicated that staff believe several functions under the matrix organisation appear to be duplicated or artificially broken up. Specific examples include: communications, microbiology and preparedness and response. Concerning communication, it was pointed out that the responsibility for external and internal communications is currently split across several parts of the organisation. Stakeholders also suggested that the laboratory work under microbiology was currently fragmented and that there would be added value in bringing preparedness and response under one unit.

ECDC manages its budget using an activity-based budgeting (ABB) approach, a system which allows for more control over the budgeting process and alignment of the budget with ECDC objectives by recording the budget allocation and utilisation by ECDC activity. Specifically, the ECDC Director can use the information on the budget and number of FTEs consumed per activity, in combination with additional information like political priorities, to efficiently plan the budget for the following year. Nevertheless, evidence of the application of and results from the ABB have not been reported on in the Annual Director Reports of Single Programming Documents.

Over the period of the evaluation, the Centre took steps to improve the effectiveness of its ABB. Firstly, it took steps to fine-tune and develop the activity-based budget into activity-based costing (ABC) to provide a more accurate view of the cost per activity. Thus far, this has only been reported on publicly for budget Title 3 in 2014 and 2015 and internally for all activities in 2016. In addition, since 2016, ECDC has an internal tool for recording the time staff members have spent per activity. Similar to above, there is no documentary evidence of the results and benefits of these developments in ABB in terms of economies of scale.

According to feedback received from senior ECDC staff during the evaluation interviews although the time spent by staff is tracked and recorded, a follow-up assessment of this data and consequent corrective actions are lacking

(aside for the few examples identified in the analysis under SEQ 20.1). This is confirmed by the lack of consistent reporting on these matters in the Annual Reports of the Director.

It is therefore especially important for ECDC continue to methodologically record and start using the results of its ABB and ABC more effectively to inform decisions to promote the efficiency and effectiveness of its activities, especially in relation to economies of scale. The results shown under SEQ 20.1 and SEQ 20.2, which identified examples of variations in budget allocations and consumption across different units and disease programmes, also underscore the importance of using ABB and ABC more effectively and consistently.<sup>535</sup>

The evaluation did not identify concrete evidence of links between the Centre's structure, governance and operations and the achievement of economies of scale at competent bodies. The only aspect in which economies of scale could be considered relates to the fact that in many CCBs, individual members often hold multiple roles as NFPs and OCPs for different areas of activity, which can be considered to bring economies of scale/scope.

**Although ECDC has been implementing activity-based budgeting and costing, the evaluation did not identify clear evidence of the results of these approaches on the Centre's efficiency or its ability to take advantage of economies of scale. The effective implementation of these approaches is impeded by the lack of systematic reporting by staff on the time spent on different activities.**

#### *SEQ 20.5 How has the Centre followed up on the findings of the two latest staff surveys?*

ECDC conducts staff surveys on a biennial basis, with three being conducted over the evaluation reference period, in 2013, 2015 and 2017. In addition, since 2017, ECDC has made efforts to improve its staff survey by, for example, participating in an inter-agency collaboration system in which a number of EU agencies have harmonised the majority of questions in their staff surveys, which allows for a certain degree of benchmarking.

The latest survey carried out in 2017 recorded a high response rate but a low staff satisfaction rate. Staff participation reached 75% but the staff engagement index at 52% was well below the 75% target set in the 2017 Single Programming Document. The dimensions that scored the highest in the survey were line manager, work itself, and reward. The dimensions that scored the lowest included the Centre's capacity to cope with change, cooperation, integrity and independence, and communication.<sup>536</sup> The surveys also indicated that a majority of staff were feeling overwhelmed with their workload, in line with the results of the organisational performance review discussed under SEQ20.3 and 20.4, suggesting that the Centre would benefit from increasing internal collaboration and defining clearer strategic priorities.

Concerning the follow-up of the findings of the different surveys, documentary evidence and stakeholder feedback suggests there was little to no follow up over the evaluation timeframe. This is supported by the fact that no tangible improvements were seen between the 2013 and 2015 surveys, despite an action plan implemented based on the 2013 results. Furthermore, it was agreed to postpone actions in response to the 2015 results until a new Director was appointed<sup>537</sup>.

Nevertheless, it should be noted that now under the new Director of the Centre and according to documentary evidence, efforts appear to be made to address the results of the staff surveys, including the organisational performance review mentioned already. For example, in its SPD 2018-2020, the Centre commits to addressing the issue of staff feeling overwhelmed with their workload while remaining compliant with EC regulations concerning staff reductions.<sup>538</sup> In particular, for the upcoming period, the Centre committed to making a decision on cutting activities by reflecting on negative priorities when required to avoid staff overload.<sup>539</sup>

In addition, based on the findings of the performance review to date, the Director has established a 'Next Generation ECDC' initiative, which encompasses four working groups set up to work on the main problem areas identified (strategy structure, systems and style).

**In summary, the staff surveys conducted during the evaluation reference period indicate that there was a general sense of dissatisfaction amongst ECDC staff resulting from the lack of a clear strategy and the organisation's working structure, systems and style. Actions to address these issues are currently underway.**

#### *SEQ 20.6 How well has the Centre offset resource cuts?*

Over the evaluation period, the Centre has been operating in a context where the resources available for disease prevention and control in the EU have decreased. The Centre was required to reduce its human resources by the

EC at the same time as its tasks were increased as a result of Decision No 1082/2013/EU. In parallel, its counterparts in Member States also came under increasing strain due to diminishing resources. These resource restrictions require increasing efficiency while maintaining the quality of the Centre’s work through the application of measures to offset these resource cuts.

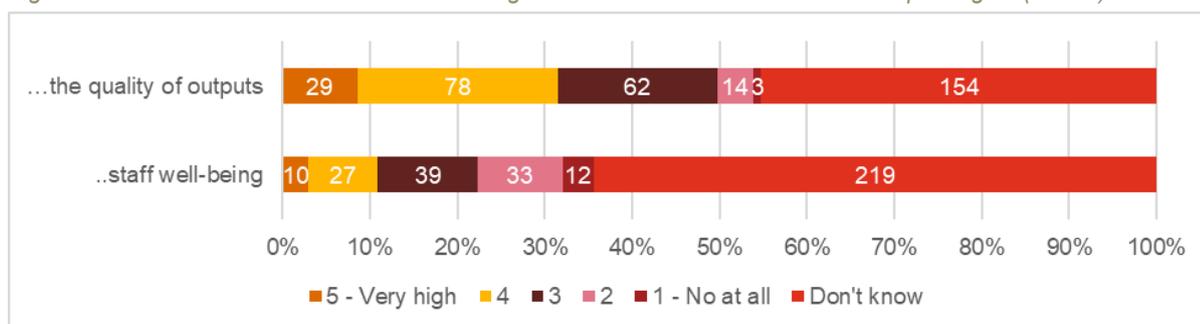
Over the evaluation period the Centre has applied different measures which aimed at increasing efficiency. For instance, after 2015 the Centre began to use electronic workflows for procurement, developed infrastructure for electronic submission of tender documents and improved its procurement monitoring. This decreased the total number of procurement procedures managed by the Centre from 138 in 2013 to 118 in 2017. Moreover, further efforts to capitalise on efficiency gains from technological adaptations appear to have been made. For instance, in 2017 the Centre started testing a new system of electronic workflows for other areas of work to ensure faster and more efficient processes. Consulted staff of the Centre involved with the implementation of these initiatives were also of the opinion that they had contributed to this objective.

There is also evidence of measures applied to increase the efficiency of the Centre’s internal processes over the reference period. For instance, in 2017 the Centre piloted a review of its internal key processes based on ‘Lean’ methodology<sup>540</sup> to simplify the organisation of its external meetings, with a view to extend the application of this methodology to additional key processes in the future. Already in 2017 the number of meetings compared to 2013 was significantly lower – from 202 to 120 respectively. Other efforts to offset resource cuts through process improvements include the development and improvement of ABB, as discussed under SEQ 20.4.

Although the above shows that the Centre has made efforts to try and offset resource cuts, stakeholder feedback on the consequences of the resource cuts suggests that there has still been an impact on both staff and external stakeholder satisfaction. As noted under SEQ 20.5, the staff survey results indicate that staff members are feeling overwhelmed by their workload. This is also reflected in the feedback received from survey respondents under the current evaluation. As can be seen in the figure below, only 11% of respondents considered that the Centre had managed to offset resource cuts without impacting staff-wellbeing.<sup>541</sup> Nevertheless, available data on staff over hours showed that in 2013 32 staff members worked an average of 23 extra hours during the year (i.e. an average of almost 2 extra hours per month), and in 2014 70 staff members worked an average of 9 extra hours during the year (i.e. an average of 45 minutes extra per month).<sup>542</sup>

Concerning the extent to which the Centre managed to offset resource cuts without impacting the quality of their outputs, as seen in the following figure, 31% of the surveyed respondents agreed with this to a “high” or “very high” extent. In addition, this rises to 58% when excluding “don’t know” responses.

Figure 87 To what extent has the Centre managed to offset resource cuts without impacting ... (n=340)



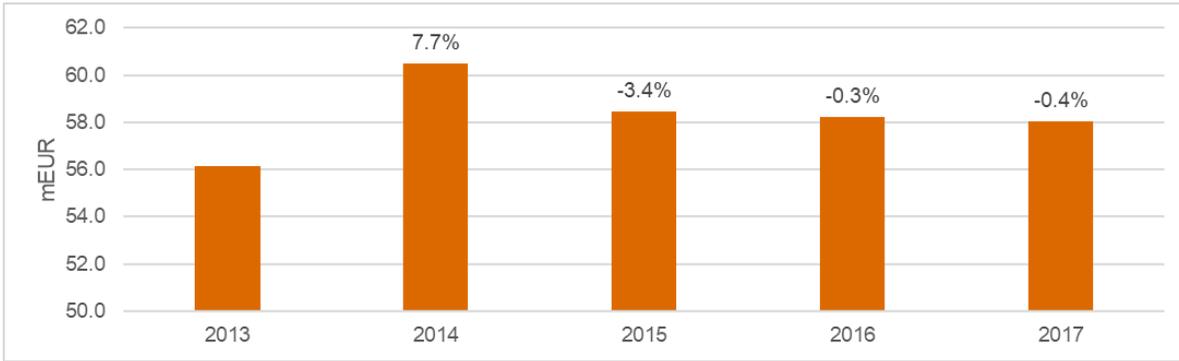
In summary, the Centre has undertaken different measures that aimed at improving its efficiency which can be considered to help offset the negative impact of resources cuts. There is no evidence to suggest that the quality of outputs has dropped as a result of resource cuts. Although consulted stakeholder feedback suggests that the Centre’s staff perceive their workload as too high, the available data on staff extra hours does not indicate a high number of additional hours.

### EQ 21: What factors contributed or prevented ECDC from acting efficiently?

#### SEQ 21.1 To what extent have the available resources been adequate for the objectives and contributed efficiently to the achievement of the Centre’s objectives?

As already discussed under EQ20, the budget of ECDC has remained relatively stable (see also Figure 88) and the staff has been reduced, whereas the tasks given to the centre have expanded, notably through Decision No 1082/2013/EU.

Figure 88 ECDC final budget 2013-2017



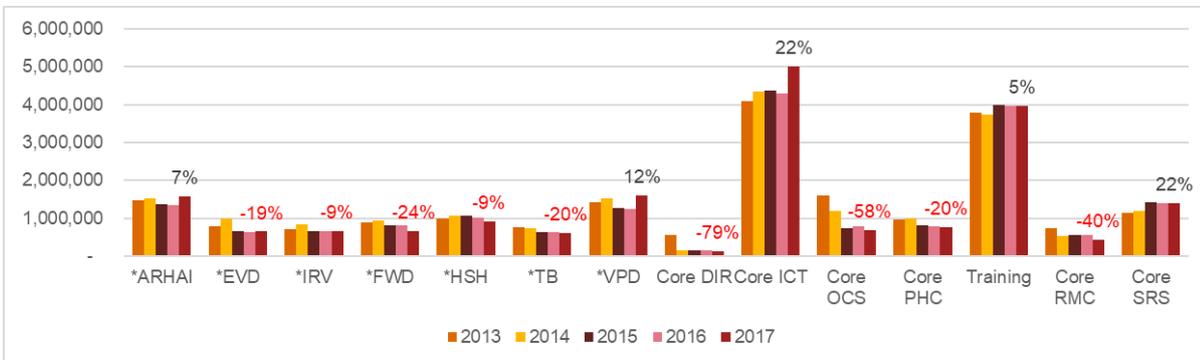
Source: Data from ECDC Annual reports

Note: The percentages indicate the year-on-year change

Stakeholders consulted for the evaluation held different views on the question of whether the resources available to the Centre are sufficient. On the one hand, country-level counterparts in the CCB structures as well as the staff of ECDC were generally of the view that the resources are not sufficient and provided different examples of areas (AMR, measles, IRV, FWD) where there is need for the Centre to deliver outputs, but where there has not been a possibility to do so (fully) mainly due to lack of staff to take on the tasks. Management Board members, on the other hand, considered that resources are generally sufficient and did not consider that there are any areas where the Centre needs more resources. This is in line with the findings under 20.6, which showed that there is a feeling of overload amongst the Centre’s staff.

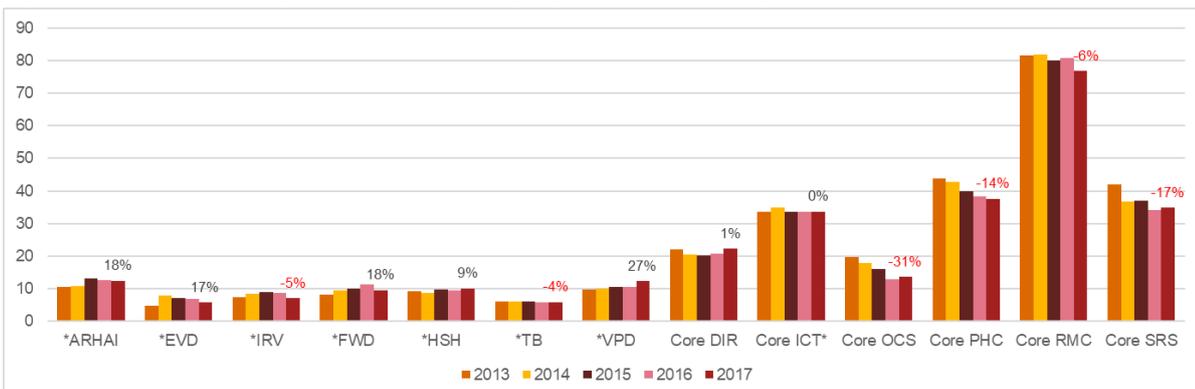
As can be seen from the following figures, the numbers show that in the IRV Disease Programme there has indeed been a drop in both human and financial resources, whereas in the FWD programme, there has been a drop in financial resources over in the years under evaluation, but a decrease in the human resources only took place in 2017. In comparison, the resources for AMR and vaccine preventable diseases have increased, which is in line with the prioritisation of these activities at EU level.

Figure 89 Budget Title 3 allocations in EUR (2013-2017) per unit and Disease programme



Source: ECDC / Note: The percentages indicate the change between amounts in 2017 compared to 2013

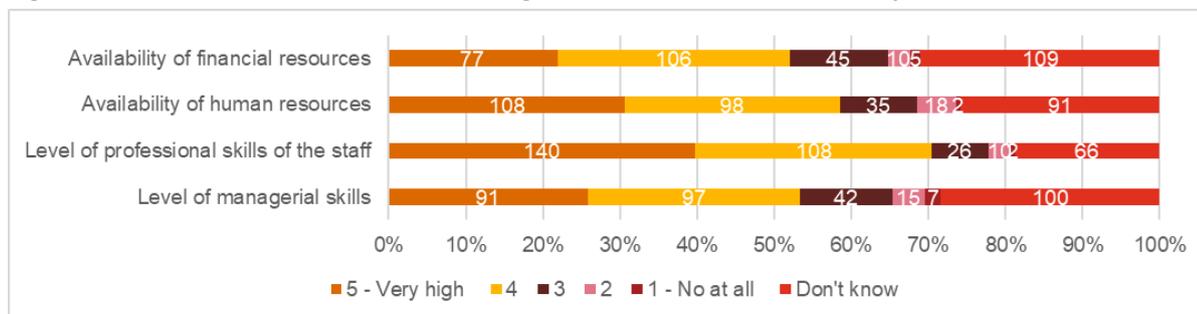
Figure 90 FTE allocations per unit and Disease programme (2013-2017)



Source: ECDC / Note: The percentages indicate the change between amounts in 2017 compared to 2013

More than half of the survey respondents considered that the availability of financial and human resources had a high influence on the Centre's efficiency. The view across different types of surveyed stakeholders was that the staff of the Agency is highly skilled, which contributes positively to its efficiency. The assessment of the efficiency contribution from the level of managerial capacity at the Centre was less positive. A number of respondents among the Centre's staff considered that there is a need to reconsider the role and task definition of managers, especially considering their high number compared to other staff members and the matrix organisation that is currently in place. This is in line with the 2017 external organisational performance review.<sup>543</sup>

Figure 91 What kind of influence did the following factors have on ECDC's efficiency?



As regards the use of the available financial resources, it was pointed out that the outsourcing of projects to Member State experts helps improve efficiency and make use of the available expertise at national level, but at the same time several survey respondents considered that such work is underfunded – i.e. the budgets made available for the project execution are not sufficient (in line with the findings under SEQ 1.2 concerning perceived limitation of resources for ECDC international activities). Another aspect that was brought up by several stakeholders within the Agency in terms of outsourced work concerns the experienced difficulties with fully executing the commitments made in the annual programme and the return of subsidies to the European Commission (see analysis under EQ 20.1). There seems to be room for improvement in the working process in place to monitor progress on defined tasks and recommitting resources when needed. The procurement processes involved in executing these budgets were considered to entail a significant administrative burden, prompting several staff members to question whether outsourcing work is more efficient than carrying it in-house, by hiring additional staff.<sup>544</sup> This was a point also identified by the second external evaluation of ECDC<sup>545</sup>, which recommended that the Centre explore all the possible contractual means to make outsourcing more inclusive and broaden the range of expertise available. Alternatively, room for improving the efficiency of procurement processes could be sought.

**The reviewed evidence indicates that the resources available to the Centre are largely adequate for the implementation of its tasks. Review of the financial and planning data shows that the resources for AMR and vaccine preventable diseases have increased, which is in line with the prioritisation of these activities at EU level. It was found that the role and task definition of managers could be revised, especially considering their high number compared to other staff members and that the Centre's outsourcing practices should be reviewed to ensure they are being used in a way to promote the highest levels of efficiency in the Centre's activities. The latter was also highlighted in the second external evaluation.**

*SEQ 21.2 To what extent has the Centre included as part of its programming possible/expected efficiency gains, while reflecting on negative priorities/decrease of existing tasks?*

A review of the annual reports for 2013-2017 shows that the Centre has undertaken a number of activities meant to improve its efficiency. The **surveillance system-reengineering project** (SSR) finalised in 2017 will become the basis for a new surveillance system which, will integrate the functionalities of TESSy and EPIS, data access, exploration and visualisation tools and include a new approach to data validation will improve data quality and ensure accountability for the data by the Member States. The system is expected to ensure a better data flow across the systems, a reduced burden, and efficiency gains. The **EPHESUS** project (2017-2020), which will evaluate all infectious disease surveillance systems in the EU/EEA public health sector is also expected to lead to efficiency gains through improvements in the data collection process. A review of internal key processes based on the 'Lean' methodology (mentioned under SEQ 20.6) was piloted in 2017 with the goal of simplifying and optimising the organisation of external meetings. Further process optimisations have been initiated with regard to the programming processes at the Centre.

In the area of administrative processes and tools, a number of new tools and systems have been introduced in order to improve efficiency:

- 2016: the introduction of e-Administration (based on the Commission e-PRIOR application suite) has been major step towards making ECDC more efficient;
- 2014: real-time dashboard for the Senior Management Team (SMT); a detailed yearly recruitment plan monitored by monthly reporting to the SMT; procedures and monthly reporting for commitments and payments; and a Committee for Procurement, Contracts and Grants.

As discussed under SEQ 4.13, there is room for improving the de-prioritisation mechanisms in place at the Centre. As a consequence, the case for efficiency gains stemming from reflection on negative priorities/decrease of existing tasks is relatively weak. There is a general view that the number of priorities has been increased, but has not been accompanied by a deprioritisation in existing tasks. Indeed, the only examples of deprioritisation of tasks identified resulted from the need to abandon certain plans in order free additional resources to accommodate new priorities stemming from external developments (e.g. Ebola outbreak and VPD prioritisation in 2017 – see SEQ 4.13). However, this cannot be linked to an increase in efficiency per se.

This is supported by the feedback received from interviewed staff members, members of the AF or MB were able to identify an example of efficiency gains due to deprioritisation. Influenza, HIV and TB, were identified as areas where due to the relatively stable situation in Europe, activities have remained stable or in some cases decreased.

However, in general, interviewed representatives of ECDC’s management did not consider that there is systematic reflection on this within the current programming process and there is room to improve the coherence between planned activities across different parts of the organisation when it comes to allocation of resources in connection to new priorities and the potential for deprioritisation.

Some of the stakeholders, both external and staff, identified areas where existing tasks could decrease in order to free up resources – e.g. by reducing the reporting on diseases that do not represent a high risk at the moment (e.g. small pox) or in terms of the level of details of annual reports, which could be lowered given that data is now available via the surveillance app.

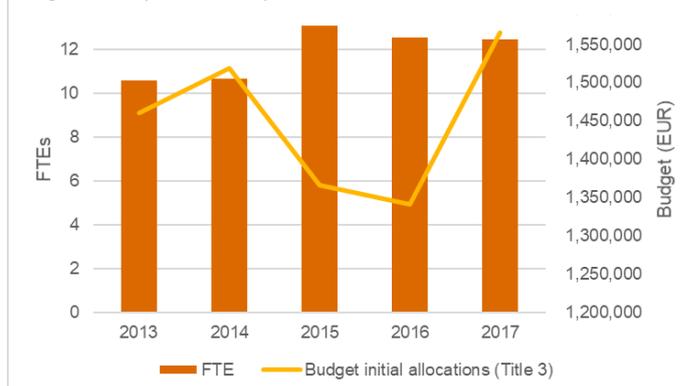
**ECDC has undertaken a number of activities meant to improve its efficiency, such as the surveillance system-reengineering project, the EPHEBUS project and review of processes in line with the lean methodology. However, currently, there is no systematic reflection on the potential for efficiency gains from deprioritisation possibilities.**

*SEQ 21.3 To what extent have unexpected external factors (outbreaks, international threats, political changes ...) influenced the efficiency of ECDC?*

As already discussed, over the period under evaluation ECDC has been successful in addressing emerging needs for its stakeholders. This includes supporting the response to national outbreaks, such as in Romania as well as domestic ones (e.g. assistance provided to outbreak response activities in Romania). In addition, they have successfully responded to unexpected international threats which occurred over the evaluation, including the Zika and Ebola outbreaks (see SEQ 4.2). Although the latter international outbreaks led to a postponement in the delivery of some other ECDC activities in order to deal with the prioritisation of the response to these outbreaks (see SEQ 4.3), no evidence was identified to show that this consequently impacted the Centre’s efficiency (see SEQ 20.1).

In addition, there is evidence that the Centre has successfully responded to unexpected political changes in the form of external demands from the European level to increase its work on areas of increasing political focus like VPD and AMR. This came in the form of requests from the European Commission to increase its activities in this area, and an unforeseen number of requests for scientific advice in the area of vaccination from Member States, the Parliament, the European Commission and the WHO.<sup>546</sup> This culminated in the Centre placing an additional emphasis on these areas in its 2017 Single Programming Document<sup>547</sup> and there is evidence that this was accompanied by an appropriate reallocation

*Figure 92 FTEs and initial budget allocations to the Antimicrobial Resistance & Healthcare-Associated Infections (ARHAI) Programme (2013-2017)*

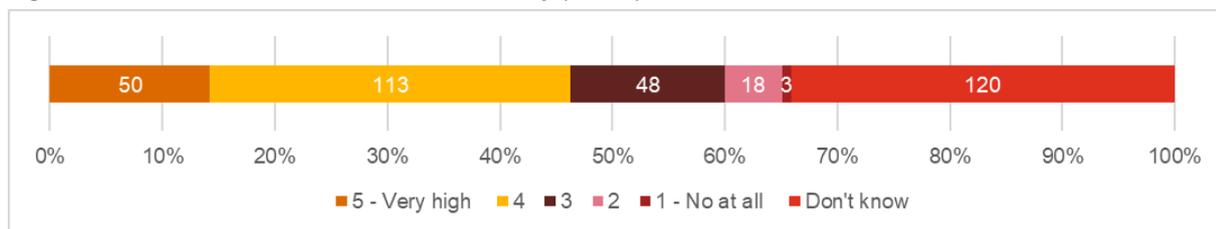


of the Centre’s resources to these areas. Specifically, interviews with ECDC staff indicated that the changes in political priorities were accompanied by the reallocation of the Centre’s human and financial resources, and this is confirmed by an analysis of the FTEs and Title 3 budget allocations to the ECDC VPD and ARHAI Programmes. As seen in Figure 29, the human and financial resources dedicated to this Programme increased over the evaluation period, with a significant increase in between 2016 and 2017; from 10.4 to 12.3 FTE , and EUR 1 246 000 to EUR 1 590 000. Similarly, as shown in Figure 92, the budget allocated to the ARHAI Programme saw a significant spike in between 2016 and 2017 from EUR 1 341 385 to EUR 1 565 154, although the FTEs stayed stable - at around 12.5 between the two years.

As above, there is no evidence that this has negatively influenced the efficiency of ECDC, despite no corresponding increase to the EU subsidy to the Centre. Indeed, the analysis of the Centre’s efficiency under SEQ 20.1 shows an improved performance in the later years of the reference period, the same time as the reallocations of its human and financial resources to respond to the new political priorities. Nevertheless, the analysis under SEQ 4.13 shows that the Centre was required to deprioritise (i.e. cancel or postpone) the delivery of some other ECDC activities during the implementation of its annual work programme in 2017, in order to deal with the prioritisation of VPD. The deprioritisation of these other activities nevertheless serves as an indication that the Centre’s resources are constrained. This is reinforced by the comments received by Management Board members on the choice of tasks to deprioritize, a large number of which were critical of the deprioritisation of the tasks, due to their perceived importance (e.g. tasks deprioritized under the IRV Programme). As such, if there is a need to generally strengthen activities in these areas, whilst not retracting from other areas of the Centre’s work, this should be linked to more resources.

This is particularly relevant to highlight in the context of the area of vaccine-preventable diseases. Specifically, interviewed ECDC staff indicated that a portion of the human resources reallocated to the VPD Programme in 2017 and 2018 was in order to respond to the additional activities the Centre would be carrying out to support the Joint Action on Vaccination, which officially commenced in 2018. This a factor that should be taken into account in the analysis of ECDC’s role in Joint Actions under EQ 17. Supporting the above results, and as can be seen in the figure below, almost half of the surveyed stakeholders indicated that such external factors have had a high influence on the efficiency of the Centre, and this rises to 70% when excluding “don’t know” responses.

Figure 93 Influence of external factors on efficiency (n=352)



**In summary, although external factors such as outbreaks, international threats and political changes in terms of EU priorities in public health have influenced ECDC’s work plans, the evaluation did not come across evidence that they have had negative impact on its efficiency. The flexibility demonstrated by the Centre to take on such unexpected tasks shows that it can prioritise important activities when necessary and through that increase the relevance of its work. However, the evaluation did identify evidence that the necessary reallocations of human and financial resources that the Centre was required to make in order to adequately respond to the political prioritisation of VPD required the deprioritisation of other activities, which were considered relevant. This serves as an indication that the Centre’s resources are constrained, and if there is a need for generally strengthen activities in these areas, whilst not retracting from other areas of the Centre’s work, this should be linked to more resources.**

*SEQ 21.4 To what extent does the Founding Regulation allow for synergies? Have synergies been exploited on an ad hoc basis?*

The potential for synergies stemming from the formulation of the mandate and tasks of ECDC in the Founding Regulation can be explored both from an internal perspective and an external one.

When it comes to the potential for synergies within the Agency related to the implementation of its obligations under the Founding Regulation, the evaluation was not able to identify strong evidence of such based on the desk research and consultation activities carried out. Mentions of synergies were identified only in two cases:

- The 2017 Annual Report of the Director reports that ECDC invited the National Focal Points for Preparedness and Response and the National Focal Points for Threat detection to strengthen synergies, but there is no information on the results of this;
- One of the consulted staff members was of the opinion that there is potential for synergies in merging some of the surveillance and Disease Programme reporting outputs.

As regards the external context, there is evidence of several different areas in which synergies are achieved. As discussed under EQ 18.2, under the “One Health” approach, ECDC and EFSA have explored synergies between the human and animal health areas. Already in 2015, the FWD Disease programme carried out work to operationalize these synergies by developing SOPs for cross-sectorial collaboration in early detection, investigation, and/or coordination of cross-border foodborne outbreaks and initiating the stepwise development of a new, quantitative harmonised surveillance of AMR in human Salmonella and Campylobacter infections allowing comparable analyses with food and animal AMR data;<sup>548</sup>

- There are also synergies between ECDC’s tasks under the Founding Regulation and under Decision 1082/2013/EU, as discussed under EQ 4.1 and SEQ 20.2;
- As discussed under EQ 17, there are different areas in which ECDC and WHO have worked on exploiting potential for synergies in their data collection, analysis and reporting activities.

Finally, in 2017, an annual joint ECDC/DG SANTE management team meeting was introduced to align strategies and foster synergies between the two organisations, but so far no results of this have been reported.<sup>549</sup>

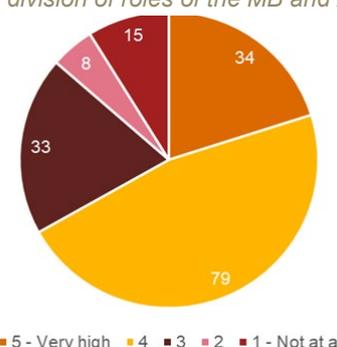
**In summary, there is no evidence of the Founding Regulation having acted as an obstacle to creating synergies. Consulted stakeholders were able to provide examples of synergies related to NFPs for Preparedness and Response and Threat detection. In addition, several examples of synergies were identified throughout the evaluation, including between ECDC and its sister Agencies, the WHO, and in relation to ECDC’s tasks under the Founding Regulation and Decision 1082/2013/EU.**

**EQ 22: To what extent have the Centre’s internal organisation, operations and working practices, as created by the Founding Regulation and Decision No 1082/2013/EU, been conducive to its efficiency**

*SEQ 22.1 Are the roles of the Management Board and Advisory Forum defined in a way that allows for an effective and efficient operation, including sufficient supervision of the Centre, and budgetary aspects, and in a way that allows MB/AF members, the competent bodies, and ECDC staff, to formulate adequate requests to the MB and AF?*

The roles of the Management Board and Advisory Forum are defined in the Founding Regulation (Articles 14 -18) and in the Rules of Procedure for both bodies.<sup>550</sup> An analysis of the documents shows that the roles of the two bodies are described clearly and there are no areas of evident overlap. This is confirmed by the findings of the stakeholder consultation (see survey results in Figure 90), although the survey results showed that this subject is not well-known among the broader stakeholder group – about 60% of the surveyed respondents considered that they do not have enough information to assess questions related to the roles of the Management Board and Advisory Forum.

Figure 94 To what extent is there clarity in the division of roles of the MB and AF?



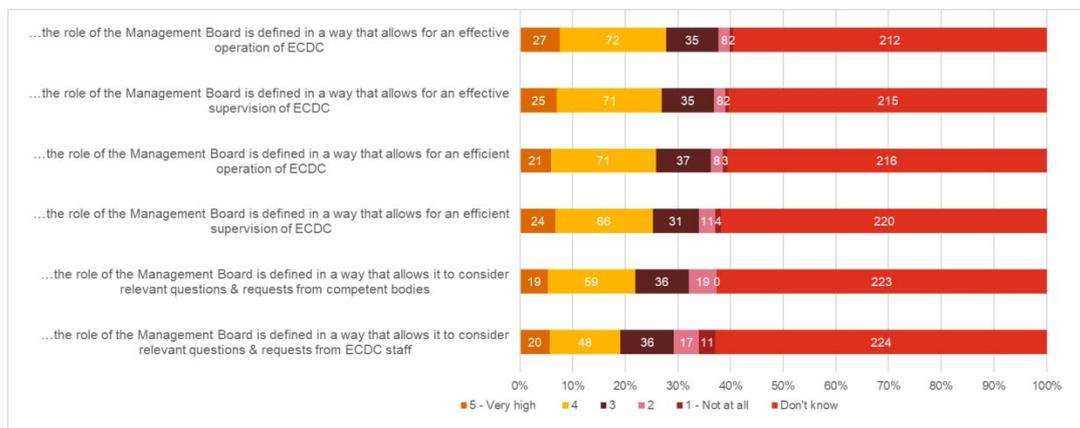
Specifically, as regards the **Management Board**, the majority of respondents who could answer this question provided a positive assessment of whether its role is defined in a way that allows for an effective and efficient operation and supervision of ECDC. There is no evidence to suggest that the mandate of the Board has constrained in any way its ability to handle relevant issues.<sup>551</sup> However, several stakeholders have pointed out that although the role is defined in a clear way, the ability of the Board to function effectively as a whole is influenced by the level of engagement and capacity of the members to fulfil it. As discussed under SEQ 22.2, there was considerable variation in the attendance of MB members over the evaluation period.

Over the evaluation period, there was no mechanism through which staff members could formulate requests to the MB. However, there were ongoing discussions about possible involvement of the staff in parts of the Board meetings, and the decision to allow their attendance in MB meetings was finalised in 2018.<sup>552</sup>

The assessment of whether the role of the Management Board is defined in a way that allows it to consider relevant questions and requests from competent bodies or ECDC staff was less positive. This reflects the fact that there is no formal legal mechanism foreseen in the Founding Regulation for addressing questions to the MB by either staff or

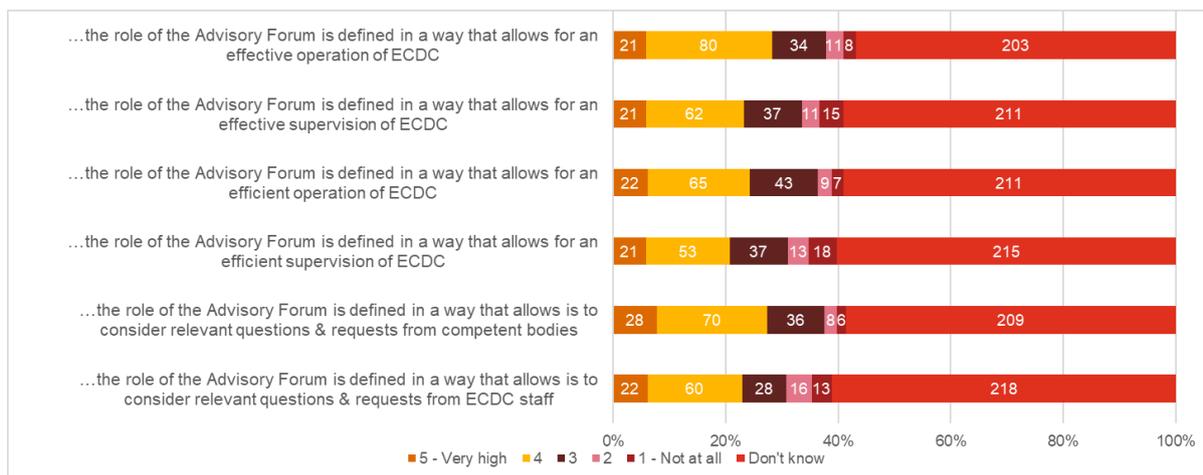
CCBs.<sup>553</sup> MB members can suggest agenda points in advance of the meetings at their own discretion. Competent bodies are not approached concerning the agendas of the MB (or the AF), but are invited to comment on the agenda of the NC meeting. Nevertheless, as discussed under SEQ 4.10 and SEQ 22.4, this is also influenced by the level of interaction between AF, MB and CCB members at national level, which is found to vary across different MS. In addition, that it is rather the responsibility of the national actors to ensure alignment and communication rather than ECDC.

Figure 95 With regards to the ECDC Management Board, please rate the extent to which... (n=356)



The assessment of these aspects by the consulted stakeholders in relation to the **Advisory Forum** is very similar (see Figure 96), although more respondents negatively assess the supervisory role of the Forum, in light of its focus on providing scientific advice. As regards the role of the Advisory Forum members, multiple stakeholders – both members of the Forum and staff of ECDC – considered that at present some members tend to act more as representatives of their country’s position rather than as scientific experts. This can be linked to the fact that there is a certain degree of contradiction between the mandate of the Forum: “The Advisory Forum shall support the Director in ensuring the scientific excellence and independence of activities and opinions of the Centre” (Art. 18(3) of the Founding regulation) and the fact that the experts are to be designated by the Member States (Art. 18(1)). As such, practical arrangements should be considered (see e.g. SEQ 22.1).

Figure 96 With regards to the ECDC Advisory Forum, please rate the extent to which... (n=357)



In summary, the roles of the Advisory Forum and Management Board are described clearly and there are no areas of evident overlap. The roles of the two bodies are defined in way that allows them to work on topics related to the Centre’s efficiency and effectiveness. There is no evidence to suggest that the mandate of the Board or Forum have constrained in any way their ability to handle relevant issues.

## *SEQ 22.2 To what extent do the working practices, decisions of the Management Board and advice of the Advisory Forum allow for an efficient operation of the Centre?*

### **Management Board**

The Management Board acts as the governing body of ECDC and is tasked with ensuring that the Centre carries out its mission and performs the tasks assigned to it under the conditions laid down in its Founding Regulation<sup>554</sup>. Specifically, the Management Board approves and monitors implementation of ECDC's work programme and budget, and adopts its annual report and accounts.<sup>555</sup>

The Management Board meets at least twice a year and additional meetings may be organised at the request of one-third of Management Board members. In the period 2013-2017, more than two Management Board meetings were convened in each year. In 2015, two extraordinary meetings were organised<sup>556</sup>. These meetings addressed the topics of the recommendations from the second independent external evaluation of ECDC, the consequence of the Ebola outbreak on the ECDC 2015 Work Programme, a discussion paper on public health training, and matters related to the election of the current Director of ECDC, Andrea Ammon<sup>557</sup>.

An analysis of the Management Board's rules of procedure indicate that they are conducive to promoting an efficient operation of the Centre. Firstly, The Management Board members are required to attend all meetings, and their alternate is required to attend in their place where their own presence is not possible. In case a Management Board member fails to personally attend three consecutive meetings of the Management Board, without being replaced by their alternate for at least one of these meetings, the Chair shall send a formal letter to the Member State or Institution to remind them of the importance of their participation. This should therefore encourage high participation rates from the Management Board members, promoting an efficient operation of the Centre.

Nevertheless, an analysis of the minutes of the 17 Management Board meetings that took place over the reference period shows that there is variation in different members' participation and an average 21% absence rate amongst members representing Member States.<sup>558</sup> Belgium, Finland, France, Germany and Sweden were the only countries who were represented in all meetings. Croatia, Liechtenstein and Romania recorded the lowest attendance scores, being absent from more than 50% of the meetings. Finally, Bulgaria, Croatia, Iceland, Liechtenstein and Romania recorded three or more consecutive absences over the reference period. In the reviewed meeting minutes there was no mention of the Chair taking a follow-up action in these cases. In addition, the Management Board recorded a high turnover rate (in comparison to e.g. the Advisory Forum – see following analysis) during the reference period, rising from 18% in 2014 and 2015 to 27% and 25% in 2016 and 2017, respectively.

There is evidence that the working practices of the Management Board are sufficiently flexible to ensure that relevant topics are addressed within the meetings. A provisional agenda for the meetings is drawn up by the Chair based on a proposal from the Centre's Director. Thereafter, additional items to be included, a request for selection or substitution of an item on the agenda may be requested by members and/or the Director.<sup>559</sup> In addition, the Management Board's rules of procedure contain a provision which enables the Chair to convene extraordinary meetings outside of the two regular meetings, in order to discuss urgent business essential for the functioning of the Centre. As discussed above, two such meetings were organised over the reference period.

An analysis of Management Board meeting minutes between 2013-2017 shows that the agendas are a mix of administrative and operational topics. Examples of operational topics discussed include a strategy on reference laboratory networks, the Fellowship programme, collaboration agreements with ASPHER and EUPHA, the ECDC International Relations policy, the country support strategy, the ECDC Public Health Training strategy and the policy on data submission, access and use of data within TESSy. The majority of topics were administrative, and in line with their assigned mission<sup>560</sup> the ones which were most frequently featured on the meeting agendas included discussions related to the implementation of the ECDC Single Programming Documents, the second external evaluation of ECDC, the selection of a new Director and discussions of the Audit Committee. During the first years of the evaluation period, discussions on the SMAP 2014 – 2020 also featured heavily on the Management Board meeting agendas.

In addition to the above, the review of Management Board meeting minutes returned various examples of Management Board discussions which directly address opportunities for improving the efficient operation of the Centre. Overall, 11/17 meeting minutes featured discussions on activities which could enhance the Centre's efficient performance. Examples include discussions on reducing costs by holding MB meetings in Sweden<sup>561</sup>, the costs and benefits of hosting the ESCAIDE Conference in different countries<sup>562</sup>, cutting costs by decreasing the amount of ECDC hard copy publications<sup>563</sup>, and increasing the efficiency of ICT systems to reduce costs through better

synchronization between the Member States and ECDC.<sup>564</sup> In addition, there is evidence of the Management Board inciting cost-benefit analyses of ECDC's involvement in different projects and initiatives, such as the IMI2 DRIVE project.<sup>565</sup>

These findings were supported by feedback from consulted stakeholders. When excluding survey respondents who responded "don't know", 64% and 65% of survey stakeholders rated the extent to which the working practices and decisions of the Management Board allow for an efficient operation of the Centre "high" or "very high" respectively (see Figure 95). Interviewed ECDC senior staff and Management Board members also expressed positive feedback concerning the efficiency of its decisions and working practices. Nevertheless, it should be noted that the number of survey respondents who responded "don't know" to these questions was high (on average 62%), which suggests that there is a lack of knowledge and need for more communication and transparency on the Management Board's proceedings.

### Advisory Forum

The role of the ECDC Advisory Forum, as defined by the Centre's Founding Regulation, is to support ECDC by ensuring the scientific excellence of its outputs, the independence of its activities and opinions. In addition, it is a mechanism for an exchange of information on potential risks and the pooling of knowledge for public health cooperation<sup>566</sup>.

The Advisory Forum is composed of members from technically competent bodies in the Member States which undertake tasks similar to those of the Centre, on the basis of one representative designated by each Member State recognised for his/her scientific competence. In addition, there are three members nominated by the Commission and representatives of interested parties at European level, such as non-governmental organisations representing patients, professional bodies or academia, which do not hold the right to vote<sup>567</sup>. Non-governmental organization representatives currently represented in the Advisory Forum include the European Institute of Women's Health (EIWH), the European Public Health Association (EUPHA), AIDS Action Europe and the European Association of Hospital Pharmacists (EAHP). Members are required to sign a declaration of commitment to attend and participate in meetings when joining the Advisory Forum<sup>568</sup>.

Firstly, the Advisory Forum convenes at least four times a year, and are able to convene meetings to deliberate on matters of urgency. Over the evaluation period, the Forum convened four times in each year, except in 2016 when two additional extraordinary meetings were held. These were convened in order to discuss the Zika virus situation<sup>569</sup>, and ECDC's participation in the IMI2 DRIVE project<sup>570</sup>. The Advisory Forum meetings recorded a lower average absence rate than the Management Board meetings over the reference period, with an average of 18% absence amongst members representing Member States. Only the German representative was present for every meeting. Poland, Cyprus and Estonia recorded the highest absence rates, although they did not exceed 50%. The Advisory Forum also recorded a lower turnover rate than the Management Board during the reference period, with 4% in 2014 and 2015 and 5% in 2016 and 2017, respectively.

An analysis of the Advisory Forum's rules of procedure indicate that their working practices are conducive to promoting an efficient operation of the Centre. Upon proposal from the Forum, the Director may set up working groups as necessary to focus on scientific, technical or other questions falling within the remit of the Centre. Finally, where independent expertise is not available, the Centre may establish independent, ad hoc scientific panels in priority areas where its members do not have the necessary expertise and initiate studies in accordance with the needs of the work programme. This provides a framework with sufficient flexibility to allow for the relevant scientific input and to address relevant topics within Advisory Forum meetings<sup>571</sup>.

The review of the Advisory Forum meeting minutes from between 2013-2017 makes clear that the topics of the Advisory Forum meetings are aligned with their mission, as defined in the Founding Regulation. Specifically, the most frequent topics addressed in the agendas include updates on related to the Centre's scientific advice activities, including assessments, reviews and guidance. Secondly, there are updates on epidemic intelligence and recent threats in the EU. Other relevant topics include discussions on the EU LabCap surveys and emerging diseases e.g. Zika and Ebola.

However, it should be noted that in a February 2015 Advisory Forum meeting, the topic was raised by ECDC that the Advisory Forum was not being sufficiently drawn on for advice. Specifically, that the Advisory Forum had received too many procedural papers of the type designed for the Management Board rather than scientific papers appropriate for its expertise<sup>572</sup>.

In addition, there is evidence that this has led to inefficiencies over the reference period. For instance, there was a general consensus expressed amongst Advisory Forum members during the same meeting, that the Advisory Forum had not been sufficiently drawn upon as a resource during the Ebola crisis<sup>573</sup>. This is confirmed by the documentary analysis of Advisory Forum meeting minutes, which show that prior to that meeting, Ebola only featured as a topic in one Advisory Forum meeting in September 2014, in which they were provided an update on the Ebola outbreak in West Africa by ECDC staff and asked how ECDC could provide better support to the Member States in this area<sup>574</sup>. Furthermore, a Rapid Risk Assessment on the Ebola outbreak was published in August 2014, and it was expressed by an Advisory Forum member that it has been interpreted differently in EU countries as a result of their not being consulted on the matter.

In terms of direct efficiency improvements in the operation of the Centre, several examples can be gleaned from Advisory Forum minutes. Firstly, there is evidence of efficiency improvements concerning their internal working practices. For instance, a working group was set up in a 2015 Advisory Forum meeting to discuss how to increase the effectiveness and efficiency of the Advisory Forum's practices and outputs<sup>575</sup>. A proposal was subsequently drafted and adopted by members in the following meeting<sup>576</sup>. Another example can be found in the Advisory Forum's decision to arrange a certain number of their meetings via audio conference. The first Advisory Forum audio conference meeting was held in 2014 and at least one has been held each year since. The estimated cost savings of this was estimated to reach up to EUR 30,000 per meeting.<sup>577</sup>

Secondly, in terms of efficiency gains for the Centre resulting from the advice of the Advisory Forum, were less than those resulting from the Management Board analysis, as to be expected given their mission's focus on scientific expertise. Nevertheless, some examples of advice given range from the analysis of cost-effectiveness of different surveillance methods and possible efficiencies to be gained from alternative organisations of the ESCAIDE conference.

Similar feedback was received from consulted stakeholders as concerning the Management Board. When excluding survey respondents who responded "don't know", 63% and 66% of surveyed stakeholders rated the extent to which the working practices and advice of the Advisory Forum allow for an efficient operation of the Centre "high" or "very high" respectively. 13/18 of the survey respondents who responded "not at all" were ECDC staff. Similarly to the findings for the Management Board, it should be noted that the number of survey respondents who responded "don't know" to these questions was high (on average 61%), which suggests that there is a lack of knowledge and need for more communication and transparency on the Advisory Forum's proceedings.

### Cross-cutting findings

An issue previously identified as one of the most important issue areas by the second external evaluation of ECDC concerned a lack of synergy between the Management Board and Advisory Forum. The evaluation recommended that the coordination and cooperation between the Management Board and Advisory Forum could be increased through practical means such as sharing of minutes and agendas and a shared intranet-<sup>578</sup>. This re-emerged as an issue under the current evaluation. Specifically, consulted stakeholders representing the Management Board, Advisory Forum and ECDC highlighted that they considered synergies between the two governing bodies could be strengthened. Specifically, that there was little awareness between the two concerning their proceedings, as well as little communication. Evidence can also be found in Management Board meeting minutes to indicate that a number of members are not familiar with the process of requesting advice from the Advisory Forum, nor the content of Advisory Forum meetings, despite a consensus concerning the benefits of collaboration.<sup>579</sup> The above discussed case of Ebola, in which the Advisory Forum was not sufficiently drawn upon for advice, serves as another example where further synergies would have led to a more effective outcome. Recommendations for addressing this issue included sharing minutes and agendas between the two bodies, and arranging their respective meetings at the same date and location to facilitate networking amongst members. Several stakeholders also suggested that the development of an introduction information package for new members of the Advisory Forum and Management Board will be helpful in ensuring that all members have aligned understanding of the requirements of the role.

That being said, in follow-up of the second external evaluation's findings, a small Management Board Working Group on Complementarity between Management Board and Advisory Forum was set up in 2016 in order to work on the complementarity between the two bodies.<sup>580</sup> Specifically the working group was created with the objective to: clarify the roles of the Management Board, Advisory Forum members and Competent Coordinating Bodies, clarify the channels of communication from the Advisory Forum as well as the mechanisms for the Management Board requesting Advisory Forum input, and establish a shared work space. In 2017, the Working Group identified the following measures in order to improve synergies between the two bodies:<sup>581</sup>

- Clarification of roles

- Induction package for new Management Board and Advisory Forum members
- Creation of a shared work area for the Advisory Forum and the Management Board
- Communication from the Advisory Forum to the Management Board
- Strengthened arrangements for requesting Advisory Forum input to Management Board business

The Working Group's findings and recommendations are now in the process of implementation, with a number of measures already taken. For instance, the working group meetings successfully addressed the clarification of the two bodies' respective roles and defined the scope of input from both entities. Concerning obtaining AF input into topics for MB discussion, the Working Group suggested a short report from the Chief Scientist on the main activities of the AF be presented to the MB, and the first report was presented in 2018.<sup>582</sup> In addition, a mechanism for obtaining input from the AF into topics for MB discussions was elaborated and proposed.<sup>583</sup>

**In summary, the evidence suggests that the working practices and decisions of the Management Board and advice of the Advisory Forum contribute to the efficient operation of the Centre. There is evidence of Management Board discussing and initiating assessments of the efficiency of the different activities of the Centre. Analysis of the topics addressed in Advisory Forum minutes show that it addresses topics relevant for its mandate, but there is also evidence that the Advisory Forum was not drawn on enough for its scientific expertise during the first period of the evaluation. This led to inefficiencies, as exemplified in the case of the Ebola outbreak.**

**Similarly to the findings of the second external evaluation, it was found that there were insufficient synergies between the Management Board and the Advisory Forum. As such, ECDC should ensure the implementation of the measures developed to address this by the Management Board Working Group on Complementarity between Management Board and Advisory Forum in 2017 as a matter of priority.**

*SEQ 22.3 To what extent is the clarity of the division of tasks of the ECDC, the Health Security Committee, the Member States, the Commission, the Scientific Committees and the European Parliament sufficient for avoiding duplication of work and for allowing efficient cooperation and/or coordination?*

#### The Health Security Committee

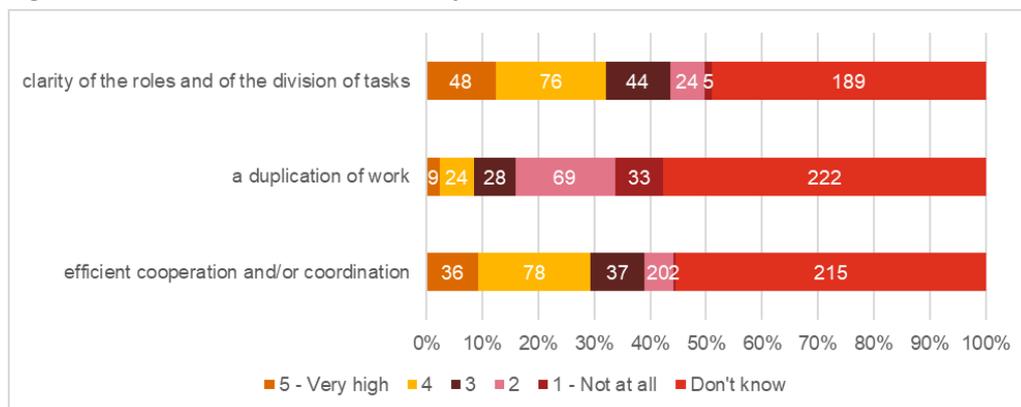
The Health Security Committee was set up in 2001 as an informal advisory group on health security, following a request of the EU Health Ministers. In order to avoid duplications with other EU entities such as ECDC, Decision 1082/2012/EU formalised its role as the expert group responsible for coordinating preparedness, response and international cooperation measures. According to the Decision, Member States consult each other within the Committee on coordinating national responses to serious cross border threats to health and the HSC is the advisory group for the cross-border threats to health legislation. In addition, the Committee deliberates communication messages towards health care professionals and the public in order to provide consistent and coherent information which is adapted to the Member States' needs. ECDC supports these meetings by providing scientific support and risk assessments.<sup>584</sup>

As already discussed under SEQ 4.1, the 2016 report of the Court of Auditors noted insufficient formal clarity on ECDC's role in the area of generic preparedness under Decision 1082/2013, considering also the Agency's mandate under its Founding Regulation, which creates risks for lack of coordination/coherence, as discussed under SEQ 4.1.<sup>585</sup> The Court's report highlighted the example of the preparation of a joint ECDC-WHO document. Specifically, ECDC and WHO worked on the preparation of a "Guide for influenza pandemic plan revision"<sup>586</sup>, however, the Commission put its publication by ECDC on hold until March 2014, due to doubts as regards ECDC's mandate to issue this type of guidance directly to the Member States. The Commission concluded that the HSC was the appropriate and mandated body to discuss matters of preparedness.<sup>587</sup> A "Guide to revision of national pandemic influenza preparedness plans", involving also contributions from the Commission was ultimately published in 2017.<sup>588</sup> According to representatives of the European Commission, the Action plan prepared in response to the ECA's report contributed to clarifying the scope of the Centre's involvement, but as discussed under SEQ 4.1 and SEQ 3.1, there is room and demand for aligning the Centre's mandate in preparedness to the all-hazards approach of Decision 1082/2013.

An analysis of ECDC Management Board minutes highlighted several cases in which a member expressed a lack of clarity in the division of the roles between the two bodies, or in which there was a lack of clarity on the tasks of the two bodies<sup>589</sup>. The results of the survey carried out for this evaluation show that there is a somewhat low degrees of awareness amongst consulted stakeholders concerning the different roles of the two bodies, with an average of 54% of survey respondents unable to respond to the questions regarding their roles and coordination. Excluding respondents who answered "don't know", 65% of the respondents rated the clarity of roles, division of tasks and the

efficiency of cooperation and/or coordination between ECDC and the HSC as “high” to “very high. Only 8% of respondents (20% excluding those who answered “don’t know”) considered that there is duplication of work to a “high” or “very high” extent. Interviewed stakeholders with whom the topic was discussed, representing ECDC Management Board, Advisory Forum and high level positions as well as representatives of national Ministries of Health and the HSC supported that there was no overlap between the two bodies’ roles and tasks.

Figure 97 Please rate the extent to which you feel there is ... between ECDC and the Health Security Committee



One of the consulted stakeholders raised a question about the potential duplication between ECDC’s Network on Preparedness and Response and the HSC Working Group on preparedness. As can be seen from the comparison in the following table, there are no evident overlaps between the tasks of the network and the role of the HSC laid down in Decision 1082/2013. The additional details on the HSC’s activities in the area of preparedness also do not appear to overlap with the tasks of the Network.

Responsibilities for NFPs for Preparedness and Response	Health Security Committee
<p>In order to ensure efficient communications between ECDC and the Coordinating Competent Body, the NFP for Preparedness and Response is specifically responsible for the following.</p> <ul style="list-style-type: none"> <li>Facilitate links within the health sector and with other sectors for the operational aspects of preparedness and response plans;</li> <li>Ensure dissemination of information to, and consolidating input from relevant sectors of the administration, including those responsible for other functions related to preparedness and response (surveillance, laboratories, clinics, public health services);</li> <li>Ensure quick and easy contacts with ECDC for urgent matters;</li> <li>Review Risk Assessments and other documents together with ECDC before making them public.</li> </ul>	<p>Decision 1082/2013 / Article 17 Health Security Committee (2) <i>The HSC shall have the following tasks:</i></p> <p>(a) <i>supporting the exchange of information between the Member States and the Commission on the experience acquired with regard to the implementation of this Decision;</i></p> <p>(b) <i>coordination in liaison with the Commission of the preparedness and response planning of the Member States in accordance with Article 4;</i></p> <p>(c) <i>coordination in liaison with the Commission of the risk and crisis communication and responses of the Member States to serious cross-border threats to health, in accordance with Article 11.</i></p> <p>HSC activities in the area of preparedness:<sup>590</sup></p> <ul style="list-style-type: none"> <li>Sharing best practice and experience in preparedness and response planning</li> <li>Promoting interoperability of national preparedness plans</li> <li>Addressing intersectoral dimension of preparedness and response planning at Union level</li> <li>Supporting implementation of IHR core capacity standards for preparedness and response</li> </ul>

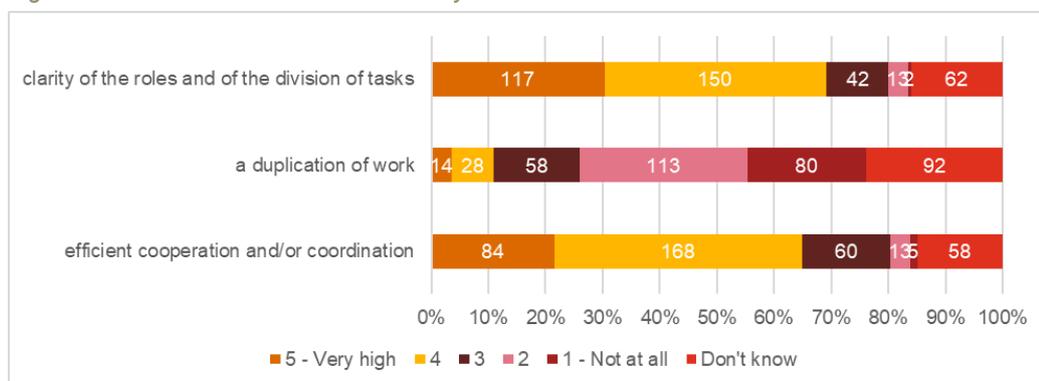
An analysis of the HSC flash reports produced between 2016-2018 also did not return any indication of overlaps between the two bodies. The main topic addressed by the HSC Working Group was the implementation of Decision 1082/2013, including the implementation of the International Health Regulations, and there is evidence of relevant synergies being created with ECDC. For instance, ECDC was invited by the Commission to contribute to the development of the Action plan to improve preparedness and response planning for serious cross-border health threats, which was prepared by the Working Group<sup>591</sup>.

## Member States

Regarding the Member States and ECDC's roles, the Member States manage and assess the risk at a national level. ECDC supports the risk management activities of Member States by supporting it with preparedness planning and risk assessment activities within the EU perspective and based on the European epidemiological situation. As discussed under EQ 16, where the coordination and complementarity between the Member States was evaluated, overall there seems to be clear roles and efficient cooperation which help to ensure avoidance of duplication between the Member States and the Centre. However, some duplication is unavoidable and is frequently viewed by Member States as being useful- For instance, several consulted stakeholders highlighted that ECDC and a number of Member States with high public health resources both carry out scientific research. Nevertheless, they considered this duplication of activities beneficial in providing the maximum amount of information to inform national policy-making.

This is supported by consulted stakeholder feedback under the current evaluation question. As can be seen in the following figure, 69% of surveyed respondents considered there extent to which there is clarity of the roles and the division of tasks between the ECDC and Member States entities as "high" or "very high". Similarly, 65% of respondents rated the extent to which there was efficient cooperation and coordination as "high" or "very high". Finally, there was only 11% of respondents considered that there was a "high" or "very high" degree of duplication between the Member States and the Centre.

Figure 98 Please rate the extent to which you feel there is ... between ECDC and the Member States



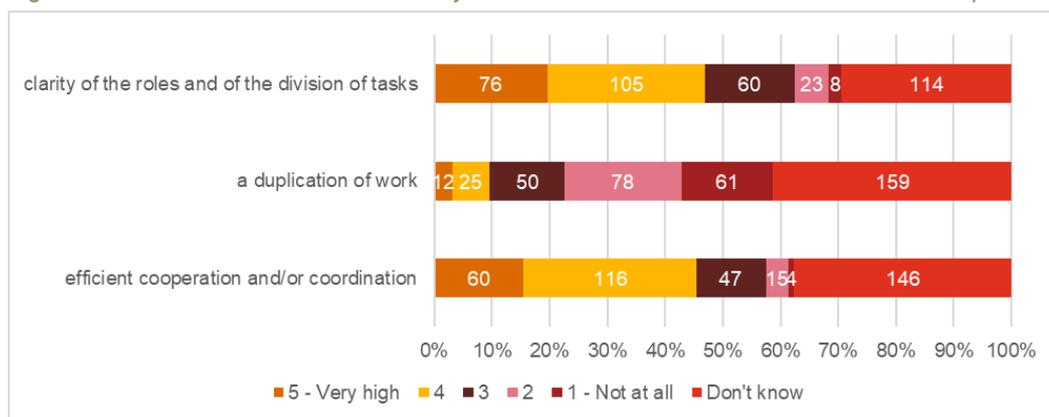
## European Commission

ECDC's division of tasks with the European Commission (EC) are such that EC coordinates the risk management, and the policy and right of initiative in the legal process while ECDC performs risk assessment activities and provides scientific opinions.

A documentary analysis returns evidence of synergies between both entities. Particularly with DG SANTE, the Centre has various agreements and collaborative activities to ensure an alignment of strategies and foster synergies. These activities include regular meetings and video conferences on the operational and strategic level, appointment of liaison officers, and the introduction of an annual joint ECDC/DG SANTE management team meeting in 2017.<sup>592</sup> Specifically in relation to Decision 1082/2013, ECDC provides support to the Commission in the task on country preparedness plans.

There was generally positive feedback from consulted stakeholders concerning the clarity of the roles and division of tasks between ECDC and the Commission. As shown in the following figure, when excluding respondents who responded "don't know", 67% of surveyed stakeholders considered that the extent to which there is clarity of the roles and divisions of task as "high" to "very high". 73% considered that there was a "high" or "very high" degree of efficient cooperation between the two, and 16% considered that there was a "high" or "very high" degree of duplication of work.

Figure 99 Please rate the extent to which you feel there is ... between ECDC and the European Commission



However, several of the consulted stakeholders expressed their concern about the risk for a duplication of work between the EC and ECDC’s activities in the area of Joint Actions funded under the EU Health Programme. As discussed at length under EQ 17, according to consulted stakeholders from Member States involved in Joint Actions, there are challenges in avoiding the duplication of work between ECDC’s activities and some Joint Actions funded under the Health Programme, as well as the sustainability of their EU-level outputs. As such, the role of ECDC in the Joint Actions should be analysed, to maximise efficiency and minimise overlaps and/or duplications in activities.

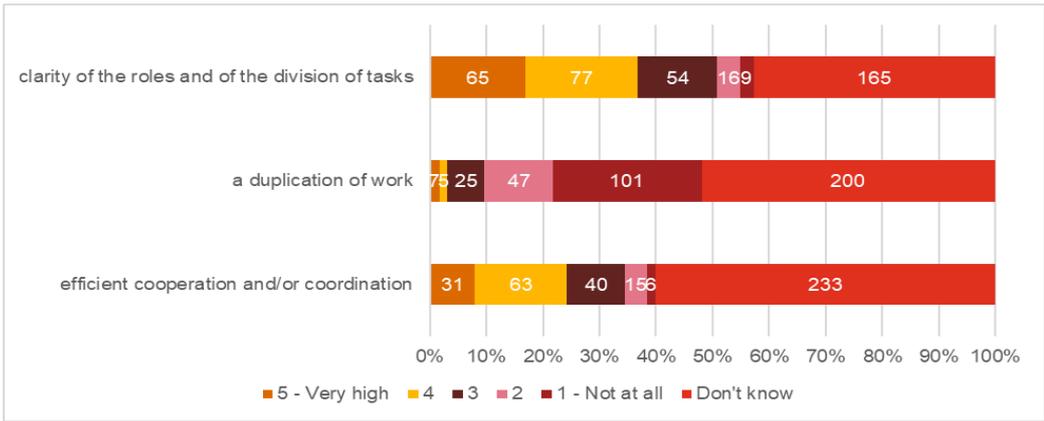
The Joint Action on Vaccination, funded by the EC, was most frequently raised as an example. However, ECDC, the Commission and EMA have different roles in the area of vaccination, and the EC is responsible for activities funded under the Health Programme.<sup>593</sup> The ECDC, however, also publishes studies and conducts research on vaccine-preventable diseases and assists Member States in cooperating against vaccine-preventable diseases. For further analysis of the question of Joint Actions please refer to EQ 17.

### European Parliament

The European Parliament ensures that citizens within the European Union are represented. The entity of the European Parliament that is mainly involved with Public Health is the Environment, Public Health and Food Safety Committee (ENVI), which frequently discusses topics on public health and is supported by ECDC through its provision of scientific advice.<sup>594</sup> In addition, ECDC’s partnership with the European Parliament is fostered by an annual exchange of views with the ENVI and ECDC’s Director.<sup>595</sup> Similarly to the HSC, evidence suggests that synergies and collaboration between the two are fostered by the regular interactions between the two bodies. Furthermore, evidence of the complementary relationship between the two can be found in the number of scientific requests made by the European Parliament to ECDC over the evaluation period. In 2016, 19 scientific requests were made by the European Parliament to ECDC and in 2017 the number of scientific requests rose to 35.<sup>596</sup>

The evaluation found no evidence of duplication between the two bodies. Supporting this, positive feedback was received from consulted stakeholders. Specifically, excluding respondents who indicated “don’t know”, 64% of survey respondents considered that there was a “high” or “very high” degree of clarity of the roles and of the division of tasks between ECDC and the European Parliament. Similarly, only 7% considered that there was a “high” or “very high” duplication of work, and 61% rated the extent of efficient cooperation and/or coordination as “high” or “very high”. Similarly to the results for the HSC and the European Commission, there were low levels awareness of the roles and work of these different actors amongst survey respondents.

Figure 100 Please rate the extent to which you feel there is ... between ECDC and the European Parliament



Scientific Committees

Decision 1082/2013/EU on serious cross border health threats states that when a coordinated response at European Union level is required, the Commission shall make Rapid Risk Assessments of the potential severity of the threat to public health available promptly. These assessments shall be carried out, as stated in Article 10 of the Decision, by the ECDC in the case of threats related to communicable diseases, AMR and healthcare-associated infections related to threats of unknown origin. EFSA and other relevant Union agencies provide assessments which are within their mandate. Risk assessments that totally or partially fall outside of the mandate of the ECDC, the EFSA and other relevant Union agencies, will, on request of the Commission and the HSC, be provided by the Scientific Committees.

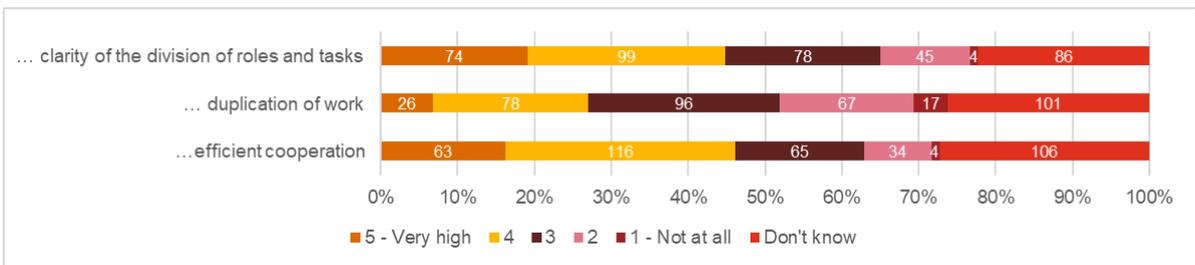
The Scientific Committees include the Scientific Committee on Health, Environmental and Emerging Risk (SCHEER) and the Scientific Committee on Consumer Safety (SCCR). On request of the Commission services, they guide on topics concerning health, environmental and emerging risk and chemical, biological and physical risk respectively. Nevertheless, a review of the Centre’s website and annual reports from the reference period show no indication of specific collaboration activities made with SCHEER or SCCR, nor any evidence of ad hoc requests made to the Scientific Committees.

WHO Europe

The Centre and WHO/Europe collaborate on various areas with each other, such as surveillance, HIV/AIDS and TB and within the context of joint reporting and meetings, as further elaborated under EQ 17. Overall, as elaborated under EQ 17, the collaboration and coherence of ECDC and WHO Europe is assessed positively, with multiple examples of successful collaboration and efforts to reduce duplication over the reference period. In addition, ECDC and WHO GOARN’s collaboration during the Ebola outbreak can be considered a key example of success in reducing duplication of tasks and capitalising on synergies. Nevertheless, a remaining point for improvement highlighted was the existing potential for duplicate reporting in the EWRS and the WHO-operated International Health Regulation (IHR) notification system, as discussed under SEQ 4.2 and SEQ 16.3.

This is supported by the feedback from consulted stakeholders under the current question. As shown in the following figure, when excluding respondents who answered “don’t know”, 36% of the survey respondents considered that there was a duplication of work between ECDC and WHO Europe to a “high” or “very high” extent. An analysis of the open comments received by respondents indicates that this relates to the factor identified above concerning the duplicate reporting into the EWRS and the IHR notification system. This was supported by participants of the conducted focus groups, many of whom highlighted that there were still areas of duplication.

Figure 101 Please rate the extent to which you feel there is ... between ECDC and WHO/Europe



In summary, analysis of documentary evidence shows a generally clear division of tasks between the ECDC and the Member States, the Commission, the Scientific Committees and the European Parliament. As regards the Health Security Committee, there is certain a lack of awareness and clarity amongst relevant stakeholders of the different bodies' mandates in the area of preparedness, but duplication of work between the two is mitigated through good cooperation between the bodies. Concerning WHO Europe, although there is generally effective collaboration and cooperation between the bodies, one area identified as in need of improvement concerned the double reporting which occurs in the EWRS and IHR notification system.

*SEQ 22.4 To what extent are the structure of ECDC and the working methods appropriate to get the best input and day-to-day coordination with Competent Bodies, National Focal Points and independent experts?*

In order for the Centre to work in an efficient manner with the EU/EEA MS, the ECDC Management Board adopted a "One Coordinating Competent Body" (CCB) approach in 2011. This set-up consists of one coordinating competent body (CCB) per Member State, consisting of a CCB Director, a National Coordinator (NC) and nominated National Focal Points (NFPs) and Operational Contact Points (OCPs).

The National Coordinator (NC) serves as the point of contact for all communication between ECDC and the Member State on technical and scientific issues. Each Member State should be able to address requests from ECDC regarding specific communicable disease issues as well as public health functions. As such, the NC identifies representatives to act as NFPs. Individuals are chosen for the different relevant disease groups and the public health functions. Public health function NFPs are meant to cover generic issues, cutting across all the disease areas. Further to this, the NC, supported by the NFPs, may also identify OCPs. OCPs for Epidemiology, Microbiology, TESSy Interactions and Response are designated within each disease group where appropriate, and OCPs for other areas may be nominated where deemed necessary. Finally, the NC could be asked to nominate a Member State expert for a specific meeting or a time-limited ad hoc expert group to bring expertise on issues that are not permanent in nature, and should always be informed whenever an expert from a CB is working with ECDC.<sup>597</sup>

The introduction of this structure was highlighted as a positive improvement to the partnership and collaboration between ECDC and Member States by the second external evaluation of ECDC.<sup>598</sup> Consulted stakeholder feedback received via the survey, as well as from interviewees and focus groups of the current evaluation similarly indicates that there is a positive consensus concerning the clarity of the different actors' roles, as defined in the ECDC "Coordinating Competent Bodies: structures, interactions and terms of reference" document.<sup>599</sup> As can be seen in the following figure, support was received by survey respondents for the clarity of the roles of NFPs and OPCs, with 64% and 54% of survey respondents rating it to a "high" or "very high extent" respectively.

Nevertheless, less support was received concerning the overall clarity of the role of NCs, with 32% of survey respondents rating it to a "high" or "very high extent". In addition, less than a majority of respondents (39%) of survey respondents rated the extent of coherence of coordination structures with institutional and governance set-up in the respective Member State as "high" or "very high". An analysis of the feedback received shows that the low ratings for the overall clarity of the role of NCs stems from a variation in the coordination between NCs, NFPs and OCPs across different countries. Specifically, it appears that in some countries, there is little communication between these actors, and weak involvement of the NC in the communication channels between NFPs, OCPs and ECDC.

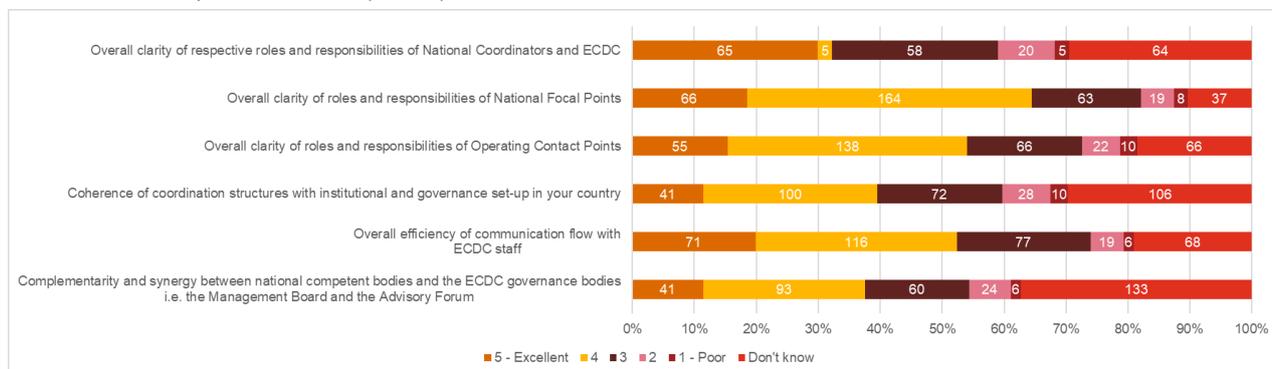
This was highlighted as a factor negatively influencing the effectiveness of the structure for several reasons. Firstly, it induces issues of coordination amongst the opinions provided across the Member States' NC, NFPs and OCPs. This can be considered particularly problematic given that these actors are representing the national interest. Secondly, it was raised that this can lead to the lack of a common understanding of the actors' different roles and thereby overlapping activities, especially between NFPs and OCPs. Finally, in relation to Member States' resource constraints, it was considered to incur inefficiencies as it does not afford the NC an overview of the national human resources being dedicated to ECDC-related activities, similarly to the results from the analysis under SEQ 4.11.

As such, there is the need for better communication amongst the different national actors. It was highlighted within an ECDC Management Board meeting that a certain degree of responsibility for increasing the communication levels between Member State actors could be borne by national actors such as the Management Board representatives.<sup>600</sup> This was also a point raised in presentations from CCB representatives at the 2016 meeting of National Coordinators, which identified communication within country as an area for improving the interactions between the national CCB and ECDC.<sup>601</sup>

Nevertheless, there are a number of initiatives the Centre could implement in order to increase the efficiency of the CCB structure. For instance, the Centre could establish organigrams and infographics demonstrating the interactions

of different actors as well as information on EPIS, TESSY and descriptions of other relevant networks. In addition, ECDC could introduce a requirement for regular coordination meetings of CCB members in each MS. These recommendations received support across interviewees, survey respondents and focus group participants.

Figure 102 What is your overall assessment of the efficiency of the structure in place for the coordination between ECDC and national Competent Bodies? (n=357)



Concerning the efficiency of the communication flow and between the CCB and ECDC, positive feedback was received from a majority of consulted stakeholders. For instance, 52% of the surveyed stakeholders considered that the communication flow with ECDC staff was efficient to a “high” or “very high” extent. In addition, this number rises to 65% when excluding respondents who answered “don’t know”. The general stakeholder feedback suggests an overall efficient flow of communication, with multiple stakeholders explaining that the responses occur in a prompt manner and that communication had improved, especially in the recent years. However, the cause of this improvement was not mentioned.

The main two challenges which the evaluation could identify in the stakeholder feedback was the fact that at times only a few people are involved in the communication, which can lead to a bottleneck of communication flow, and the fact that there is limited access to internal organigrams and contact details.<sup>602</sup> The fact that some stakeholders perceive that there is limited quantity of staff to contact could be addressed by establishing an organigram which includes relevant contact details and can raise awareness and visibility amongst stakeholders. As such, more eligible staff can become visible and identified clearer in order to be contacted.

Finally, the complementarity and synergy between the national competent bodies and the ECDC governance bodies, i.e. the Management Board and Advisory Forum were assessed to be moderate. As can be seen in the figure above, only 38% of survey respondents considered that there was a “high” or “very high” degree of complementarity and synergy between national CCBs and the ECDC governance bodies. Nevertheless, and similarly to the findings of the interactions between actors in the CCB, consulted stakeholder feedback indicates that there is variation in communication between the ECDC Management Board and Advisory Forum members and CCB actors across countries.

However, there was mixed feedback concerning the necessity to address this. A number of consulted stakeholders were of the opinion that coordination between those bodies should be improved. Suggestions for achieving this included holding joint strategy meetings for CCB, AF and MB representatives on a country level to align opinions and allow for increased complementarity at national level. Nevertheless, a stronger majority of consulted stakeholders were of the opinion that increasing the communication and complementarity of the two bodies should not be a priority, with several different justifications. Firstly, multiple consulted stakeholders highlighted that this would not improve the efficiency of the structure as it would require an investment to coordinate the actors and then align their different opinions. In combination with this, that this was not necessary in relation to the MB members, given their focus on governance aspects. Concerning the AF members, it was highlighted that they were not meant to be representing national interests but independent scientific expertise. Encouraging further collaboration between these actors in their formal roles could therefore aggravate the issues identified under SEQ 22.1 related to some members acting more as representatives of their country’s position rather than as scientific experts.

**In summary, the extent to which the structure of ECDC and the working methods are appropriate to get the best input and day-to-day coordination with Competent Bodies, National Focal Points and independent experts is somewhat positive, although there remains room for improvements. The introduction of the Competent Coordinating Body was a positive improvement to increasing the efficiency of interactions between national actors and ECDC. There is also a clear division and description of the roles of the different actors involved in the CCB, and the structure for their interactions is effective. Nevertheless, the efficiency of the system appears to be dependent on the degree of communication between the NC, NFPs and OCPs at national level.**

Evidence suggests there is generally an efficient communication flow and between the CCBs and ECDC, although a clearer identification of relevant ECDC contact staff could further improve it. The complementarity and synergy between national competent bodies and the ECDC governance bodies were also found to vary across different MS. Nevertheless, it was not considered a priority to address this given the different roles and objectives of CCB actors and Management Board and Advisory Forum representatives.

**EQ 23: To what extent is the structure and organisation (management systems and process, mechanism for programming, monitoring, reporting and evaluation the agency, etc.) of the Centre adequate to the work entrusted to it and to the actual workload in order to contribute to the efficiency? To what extent do they ensure accountability and appropriate assessment of the overall performance of the Centre while minimising the administrative burden?**

*SEQ 23.1 To what extent is the structure and organisation of the Centre (management systems and process, mechanism for programming, monitoring, reporting and evaluation in the agency, etc.) adequate in terms of the work entrusted to it and the associated workload for contributing to the Centre's efficiency?*

In terms of the assessment of the **organisation** of the Centre, this evaluation relies mainly on the results of the organisational review commissioned by ECDC in 2017. The results of the organisational performance assessment identified a number of issues in the area of operations and administration as well as areas of improvement for the Centre's organisational efficiency.<sup>603</sup> As discussed at length under SEQ 20.3, the organisational performance assessment identified a number of inefficiencies stemming from the organisational matrix structure, as well as widespread discontent amongst ECDC staff. Issues identified with the matrix structure include limited cooperation and coordination of activities between units, partly due to an excessively hierarchical structure, which is uncondusive to the desired flexibility. In addition, excessive workloads and frustration are resulting from disputes over resources as well as a fragmentation/duplication of certain functions. To tackle these issues, it was recommended that a review of the organisational matrix structure take place, once ECDC has established a clear sense of strategic priorities to guide the purpose of this revision.

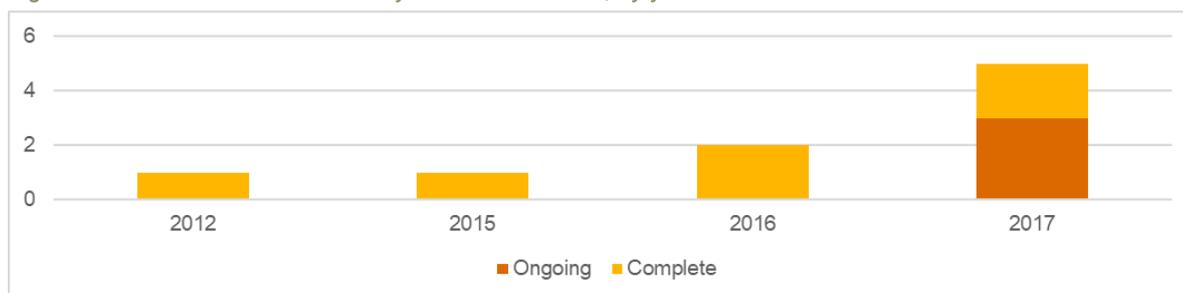
Concerning the organisation of the Centre, in terms of its systems and processes, the performance assessment found that the main systems and processes used by the Centre are not conducive to enabling its staff to efficiently carry out their tasks, with evidence of a proliferation of systems and procedures that are not necessarily fit for purpose. Complex procedures and lack of guidance for staff on how to use systems and procedures were identified as factors hampering productivity. That being said, the introduction of the LEAN / Six Sigma methodology for process improvement into ECDC in 2016 was recognized to have brought about a degree of improvement in this area by consulted ECDC staff.

As a follow-up to the results of organizational review, the Centre engaged in a change management exercise. The results of this initiative are expected in 2019 and are not covered by this evaluation.

The **programming mechanism** used by the Centre is subject to the planning cycle and requirements defined by the Common Approach for EU Decentralised Agencies. As discussed under SEQ 19.2, the implementation of the new planning process has carried out but it is still found to be challenging for both staff of the Centre and members of the Management Board and Advisory Forum, due to the requirement to plan in parallel the activities for 3 years.

As regards the **evaluation activities** carried out by the Centre, these are subject to an Internal procedure adopted in 2014, which defines the scope, objectives, process and roles in evaluations commissioned by the Centre. As can be seen from the following figure, the number of evaluations has been increasing, with a total of nine evaluations completed between 2013 and 2017. As of April 2019, there were 10 ongoing evaluations at the Centre. The completed evaluations covered IT projects (Intranet, IT governance), surveillance activities (EPHESUS evaluations of AMR/HAI, HIV/AIDS surveillance systems, the EUPHEM programme). Given the approximate share of these activities in the 2017 budget of the Centre, the evaluations can be linked to activities accounting for 30% of the resources of the centre. Although there are not established targets or benchmarks for the share of agency activities that should be covered by evaluation, the proportion can be considered relevant.

Figure 103 Evaluations carried out by ECDC 2012-2017, by year in which the evaluation started



In summary, an external organisational performance assessment in 2017 identified a number of inefficiencies stemming from the organisational matrix structure. Nevertheless, an ongoing change management initiative in the Centre is expected to address the issues identified by the assessment. The evaluation activities carried out by the Centre in the evaluation period were found to cover a relevant share of its work.

*SEQ 23.2 To what extent do the management systems and process, the mechanism for programming, monitoring, reporting and evaluation in the Centre ensure accountability and appropriate assessment of the overall performance of the Centre while minimising the administrative burden?*

At **programming and monitoring** level, the main mechanism for assessing the performance of the Centre is to be found in the Key Performance Indicators (KPI) and targets framework which is assessed in the Annual reports of ECDC. The KPIs are linked to the Strategic Multiannual Programme of the Centre, and were subject to a mid-term review in 2016. A closer analysis of the defined KPIs shows that they are a mix of output and outcome level indicators, whereby the output indicators in particular appear to be easily obtainable as they usually describe the volume of activities. Although the majority of KPIs are assessed against the set targets in each report, there are some gaps, especially at outcome level, as demonstrated by the following table.

Table 10 Annual report 2017 outcome indicators not assessed due to lack of data

Activity	Indicator	Target 2017	Result 2017
Country preparedness support	Proportion of trained countries which will integrate tools and methods referenced to ECDC products for evaluation into national planning cycle	50% of countries actively involved have integrated the outcomes in their national plan by end of 2018	Data analysis on the integration of tools and methods by countries in their national plan is not available at this stage
Public health training	Number of scientific articles of public health relevance by EPIET/EUPHEM fellowship during and after completing the programme	> 50% increase compared to the 2- year period before entering the programme	Data on the scientific publications of fellows is not available
Public health training	Number of EPIET/ EUPHEM graduates working in Public Health per Member State, per discipline (absolute and proportional)	D. Reduction of the gaps identified by the Training Needs Assessment	Data on number of graduates working in Public Health per Member State is not available
Public health training	Number of cascaded courses in EU Member States	6 Member States having used EVA in cascaded courses	Data on cascaded courses in Member States is not available

Although most indicators can be considered relevant, the reporting on them in the context of the Annual reports over the evaluation period was not conducive to identifying trends in the Centre's performance, as the reports included only information for the year of the report, and no indication of the development of the indicator in previous years.<sup>604</sup>

As regards the effectiveness of the Centre's **evaluation** activities, as noted under EQ 23.1, they are performed in line with a dedicated internal procedure, which includes a set of requirements about the dissemination and utilisation of evaluation results. The requirements relate to the dissemination of the evaluation to the relevant organisational entities within the Centre, the communication of their results to decision makers and stakeholders, their publication, and the monitoring of their take up.

While there is evidence of the dissemination of evaluations within the Centre and to the Management Board and Advisory forum, most of the evaluations completed by end 2017 were not publically available at the time of the external evaluation.<sup>605</sup> It should be noted that the procedure is not specific on how the monitoring of the take up of evaluation results is to be implemented. Unlike the best practice adopted by a number of international organisations to ensure a so-called "management response" to the findings and recommendations of evaluations that commits management to implement an action plan that ensures follow-up,<sup>606</sup> ECDC's procedure does not include such follow-up. According to some of the interviewed staff of the Centre, there are also concerns about the extent to which such

follow up takes place in practice. The evidence collected also did not demonstrate that a system of monitoring of the take up of recommendations is in place.

As regards the follow-up to the second independent external evaluation in 2014, the Management Board and ECDC prepared a Joint Action Plan to address the evaluations' recommendations. The recommendations were not only addressed by the ECDC through the Joint Action Plan, but also with DG SANTE taking the lead in recommendations 1-4, following a request of the MB. According to the 2017 report on the implementations of the Joint Actions Plan, the tasks undertaken by ECDC and by DG SANTE address to a great extent the 18 recommendations which were accepted by the MB. As for some recommendations addressing the recommendations fully is still in progress and initiatives have just been completed recently, a full assessment of the outcome is not possible. However, the evaluation found that recommendation 17, to address the complementarity between the AF and the MB to the extent possible, has not been fully addressed yet.

**In summary, ECDC has in place monitoring and evaluation framework that is relevant for ensuring accountability and appropriate assessment of the overall performance of the Centre, but there is room for improvement in the comprehensiveness of monitoring indicators and the robustness of the mechanisms for follow-up on the results of internal evaluations.**

*SEQ 23.3 To what extent have the existing administrative arrangements, working methods, and agreements between ECDC and its partners worked efficiently and how can they be simplified?*

Under this question we consider the cooperation between ECDC and partners, such as other EU Agencies and international organisations. At present, this is based on different types of arrangements and working methods, depending on the type of cooperation needed.

Cooperation with EU Agencies at administrative level takes place through the Agency Network, whereas at operational level, with Agencies with relevant areas of work, there is a practice of setting up Memoranda of Understanding which outline more concretely the objectives, scope and process of cooperation. As discussed under EQ 18, the overall assessment of the coordination and the nature of coordination between ECDC and the EFSA, EMA and EMCDDA is positive and working sufficiently well. One of the Agencies consulted for the evaluation – CHAFEA – expressed an interest for signing such an MoU, considering that it would be useful to formalise their collaboration with ECDC and increase complementarity in the context of the planning and implementation of Health Programme projects and Joint Actions.

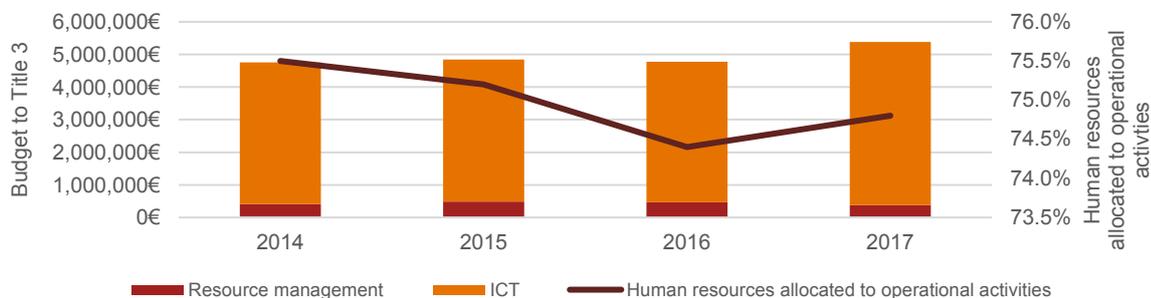
ECDC's main partner at the international level is WHO. ECDC and WHO/Europe cooperate on the basis of an Administrative Agreement signed in 2011. Within its current International Relations Policy 2020 document, the Centre states that new internal procedures, tools and coordination structures will be put in place to improve coordination with the Centre and WHO/Europe. Examples of these are coordinated meetings between ECDC and WHO/Europe. They take place in the context of the WHO/ECDC Joint Work Programme which outlines the planned collaboration between the two organisations for the year ahead in different areas. ECDC issues an annual report on the completion of the working programme and corresponding action plans. Consulted stakeholders from WHO and ECDC did not identify any needs for improving the efficiency of cooperation between the two organisations.

**In summary, ECDC is working on formalising its cooperation with different partners through MoUs. These MoUs will help clarifying responsibilities and expected efficiency from each party. The evaluation did not identify any areas where there is concrete need for improvement.**

**SEQ 23.4 To what extent is the ratio administrative/ operational staff adequate for fulfilling the Centre's tasks, and to what extent is the Centre benchmarking this ratio?**

In 2017, ECDC staff totalled 266, with the SRS and PHC units accounting for 42%, closely followed by RMC and ICT at 40% and the remaining 18% distributed across the OCS unit (11%) and the Director's Office (7%)<sup>607</sup>. The majority of resources are therefore concentrated in supporting the Centre's core activities at present.

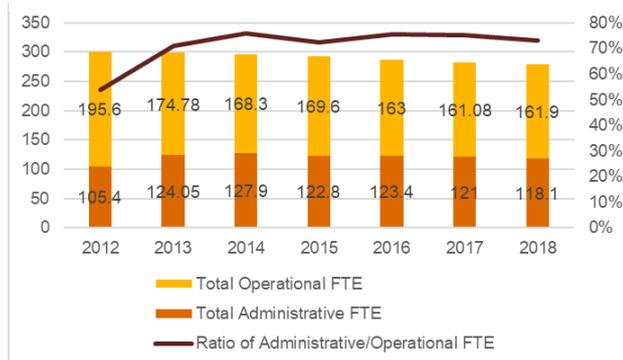
Figure 104 Budget and human resources allocated to ECDC functions 2014-2017



Ipsos MORI's Analysis of ECDC's Organisational Performance (2017), found indications that there is an undervaluation of administrative work and positions and points towards a lack of human resources in the area of administration and coordination.

The Centre reports consistently on the ratio of operational and administrative staff in its annual reports, but does not make a reference to benchmarks for it. Analysis of the ratio of administrative and operational resources over the reference period shows that ECDC allocated an average of 75% of its human resources to its operational activities, which is in line with EC best practice and benchmarks (70% of resources to be allocated to core activities). This is comparable to levels at similar EU agencies like EFSA, which dedicated an average of 72% of its resources to operational activities over the same period.<sup>608</sup> Nevertheless, as can be seen in the figure, over evaluation period the overall human resources dedicated to operational activities decreased at the same time as the financial resources allocated to support functions remained relatively stable or increased.

Figure 105 Total FTE and administrative/operational FTE ratio from 2012-2018



the

the

**In summary, although the Centre does not benchmark the ratio of its administrative and operational staff in its annual reports, it does assess it on an annual basis. The ratio is found to be in line with available benchmarks in similar EU agencies.**

**EQ 24: To what extent has the Centre been successful in creating synergies and an optimal use of combined resources allocated for the implementation of its mandate and EU policies (e.g. One Health Policy, sustainable development and health inequalities) to manage operations? What factors contributed to this?**

The **One Health** approach is defined by WHO as 'an approach to designing and implementing programmes, policies, legislation and research in which multiple sectors communicate and work together to achieve better public health outcomes'.<sup>609</sup> In the EU policy context, Decision 1082/2013/EU provides the legal basis for the One Health aspects in the framework of health security, with a focus on animal health and food safety, preparedness and response to zoonotic threats, and antimicrobial resistance. This is further elaborated on under EQ 18.

A limited amount of consulted stakeholders was able to provide specific examples of measures taken to create synergies for the implementation of EU policies and its mandate. These stakeholders were mainly ECDC staff and members of European Union Institutions. Overall, on the question of synergies related to the "One Health" approach, the evaluation found a lack of awareness amongst non-staff and non-EU stakeholders. The examples frequently mentioned are the surveillance activities together and joint risk assessments carried out by ECDC and EFSA in the

area of food and waterborne diseases. The assessments are considered to demonstrate the synergies and EU added value of the work of the two agencies, as they provide a more holistic approach to disease prevention and control and are able to expand the scope to animal, environmental and agricultural aspects. However, there are differences in the legal framework within which ECDC and EFSA operate, which according to consulted stakeholders, including from the two agencies, have created some challenges for their cooperation on risk assessments in particular. The issue was discussed at a Management Board meeting in 2013, with the European Commission committing to collaborate with ECDC and EFSA in order to produce Standard Operational Procedures for joint risk assessments in outbreaks of communicable diseases that are potentially linked to food sources, thereby enhancing the level of scientific thoroughness and providing a stronger basis for risk management activities.<sup>610</sup>

**Health inequalities** have been defined as “differences in health status or in the distribution of health determinants between different population groups” in the WHO.<sup>611</sup> At present, ECDC works on health inequalities in relation to infectious diseases. The Centre works with Member States to identify and target vulnerable and often socially excluded groups, such as migrants, and improve their health. The examples provided by consulted stakeholders were on the work done by the Centre on migrant health and communicable diseases amongst migrants. The Centre worked together with the International Organization for Migration (IOM), DG HOME and DG SANTE. The synergies were increased following the migration crisis in 2015, where several meetings for coordination and knowledge sharing were organized (CHAFEA). An example is the Health Security Committee meeting on ‘Migrant health action: Health needs, existing activities and future action at EU level’, in September 2016.<sup>612</sup> However, while there is awareness about ECDC’s activities within the area of migration, the majority of stakeholders were not able to associate synergies in this context with the work done on migration. This is evidence for a need of better communication on these aspects in order to raise awareness amongst the stakeholders.

In the areas of **sustainable development**, the third Sustainable Development Goal (SDG) to “ensure health lives and promote well-being for all at all ages”<sup>613</sup> the eradication of AIDS, tuberculosis, hepatitis, water-borne diseases and other communicable diseases is defined. Further, it addresses the strengthening of the capacities of countries for early warning, risk reduction and management of national and global health risks. ECDC’s activities on preparedness in the context of its legal mandate under the Founding Regulation and Decision 1082/2013 can be considered to provide synergies for Member States and the EU’s contribution to the SDG. Furthermore, the Centre’s work outside of the EU can also be linked to promoting sustainable development globally.

**In summary, there are clear links between ECDC’s work and higher levels of EU and internal policy agendas in the areas of One Health, health inequalities and sustainable development. The Centre’s work on migrant’s health in the wake of the migrants’ crisis emerged as a positive example. The evaluation did not find evidence of missed opportunities for achieving synergies in these areas.**

# Conclusions

The following conclusions have been formulated in line with the evaluation criteria. A SWOT analysis at the end provides a cross-cutting view on the main strengths, weaknesses, opportunities and threats identified for ECDC's performance through the evaluation.

## Relevance

The evaluation finds that ECDC's activities and outputs have been relevant for the needs of its EU and national stakeholders over the period of evaluation. The Centre's work has supported the implementation of obligations for the EU and Member States stemming from EU and international law. The Centre has also prioritised areas of work that are aligned with emerging areas of EU and national interest, with its outputs in the area of antimicrobial resistance and immunization deemed particularly relevant.

There is also evidence of the need for the Centre's international activities in the context of the Zika and Ebola crises, the preparedness of the EU to respond to such outbreaks, including through the European Medical Corps, and its support for capacity building activities in neighbouring countries. However, ECDC's ability to respond to demand for its involvement in international activities has been constrained by the limited availability of internal resources and by the challenges of receiving additional resources for such activities through the European Commission's existing financing mechanisms.

The evaluation found that the Centre has also successfully adapted to changes in the EU political and socio-economic context over the reference period, ensuring the continued relevance of its activities. This is particularly visible with regards to arising needs to increase the sustainability of activities in the area of public health as well as developments such as the move towards the "One Health" approach. One area of weakness identified relates to the Centre's mechanisms and capacity to adapt to reduced national public spending in Member States. There is room to improve on this aspect, by integrating and applying consistently this consideration in existing mechanisms for planning, prioritisation and provision of country support.

The relevance of ECDC's outputs across its key stakeholder groups is also high. This is especially true for policy-makers, with evidence of ECDC outputs being used in decision-making at both the EU and national level. The relevance of ECDC's outputs is also assessed to be high for public health experts. It was found that public health experts in national public health institutes frequently use ECDC outputs to inform their recommendations to national policy-makers. Nevertheless, the experts in smaller and less-resourced Member States tend to rely more heavily on the work of ECDC, whereas larger, higher-capacity countries need ECDC more as a supplement to their own work.

The relevance of ECDC outputs for regional policy-makers, the media and the general public was found to be lower. Regional policy-makers and the general public are not direct target groups for the Centre's communication activities and receive information originating from ECDC through the communicating activities of Country Coordinating Bodies. ECDC could, however, strengthen the relevance of its work for the general public by better packaging its outputs and translating them using simplified, jargon-free vocabulary and into more languages. Concerning the media, feedback from consultation activities suggests national media is less aware of ECDC and may preferentially obtain information from national public health institutes or the WHO. This was attributed to low levels of communication between ECDC and the media.

The evaluation also considered the need for an extension of ECDC's mandate in the areas of cross-border threats to health other than from communicable diseases and in the area of non-communicable diseases (health information, monitoring, determinants, behaviour and promotion). ECDC is already providing support to EU activities on cross-border threats to health from areas other than communicable diseases through its work on the Early Warning and Response System. According to the majority of consulted stakeholders there is a need for the Centre to have an extended mandate in this area, building on its strengths in providing risks assessments in public health and its existing contribution to the all-hazards approach to preparedness laid down in Decision 1082/2013 EU.

The analysis finds that an extension of the Centre's mandate in the areas of health information, monitoring, determinants behaviour and promotion would equate to an extension into the area of non-communicable diseases. The available evidence suggests that this is an area in need of strengthening at the EU level and ECDC is a potential suitable option for increasing/centralising such activities in an existing EU agency based on its existing processes, infrastructure and practices. Other strengths are to be found in the Centre's existing expertise and reputation for

delivering high quality of scientific advice and technical assistance. The opportunities stemming from an extension of the mandate to the area of non-communicable diseases are related to the added value in providing a more permanent, centralized structure and sustainability of results, in comparison to the current approach based on cooperation between the Commission, Member States and other actors through Joint Actions and other project-based structures. In addition, synergies with ECDC's work on communicable diseases could encourage more integration at national level. The main opportunity from an extension of the mandate to cross-border threats from environmental and chemical origin can be found in the potential for more aligned implementation of the all-hazards approach of Decision 1082/2013 EU.

Conversely, the potential risks and disadvantages of an extension of the Centre's mandate include the possible dilution and drop in quality of ECDC outputs as its tasks expand, and an increase in duplication of its tasks with other EU Agencies, Commission services or the WHO. Resource availability was identified as a key constraint for the Centre's capacity to adapt to future changes that would require it to take on additional tasks.

Given the significant policy changes and expected resource implications of the areas considered for extension of ECDC's mandate, a dedicated Impact Assessment in line with the Better Regulation Guidelines of the European Commission should be carried out. This could further define the current problems, drivers and consequences, as well as the corresponding objectives and alternative options

### **Effectiveness**

The evaluation assessed ECDC's effectiveness in different areas of activities for the Centre.

Firstly, ECDC is found to have successfully integrated its additional tasks in the area of cross-border threats to health triggered by the adoption of Decision 1082/2013 EU. Although the Centre did not receive additional budget for these tasks, the evaluation did not find any evidence of negative consequences for the effectiveness of its activities under the mandate given by its Founding Regulation. However, the evaluation found that there is remaining room for further clarification of ECDC's mandate in the area of preparedness for threats from sources other than communicable diseases, and that there are remaining issues with the comparability and completeness of data collected through the surveillance networks.

Secondly, the Centre can be considered to effectively use its services to respond to current and emerging health threats from communicable diseases, especially as a result of its epidemic intelligence activities and tools. The Centre's Rapid Risk Assessments are of high quality and, as such, are frequently used to inform and coordinate response measures. However, room for improvement was identified concerning the utility of their recommendations for national contexts and the processes for involving external experts in their development. The Early Warning and Response System (EWRS), operated by ECDC on behalf of the Commission, was also found to be an effective system for alert and communication, with evidence of its use in notifying and/or coordinating response activities in cases of outbreak. Nevertheless, there is evidence of the need for the Commission, Member States and WHO to address a continuing overlap in notifications and reporting between the EWRS and the WHO-operated International Health Regulation (IHR) notification system. ECDC Round Table reports were also highlighted as particularly effective in acting as an early warning system, and it was found that a number of Member States routinely rely on these outputs as a source for their epidemic intelligence. The evaluation also finds that ECDC provided effective technical coordination during public health emergencies over the evaluation period, and these were particularly effective in cases involving multiple countries. These outputs were found to be considerably effective during outbreaks originating from outside of the EU.

Evaluation findings show that ECDC has been effective in providing timely information of high scientific quality to inform activities in the field of infectious disease both at the EU and national level through its expert opinions, evidence based guidance documents, and scientific journal Eurosurveillance. ECDC's effective response to requests for ad-hoc advice has also contributed to this. In addition, evidence shows that the Centre has communicated the results of its work in a rapid, objective, reliable and easy accessible way to its stakeholders, and surpassed its performance indicators for their timely delivery. The involvement of external experts in the redaction of scientific outputs other than RRAs is found to have contributed to their high quality. Nevertheless, the mechanism for involving other external experts in scientific outputs other than RRAs could be improved to increase the transparency and diversity of expertise drawn on.

During the evaluation period, ECDC has dedicated increasing resources to activities related to immunisation and vaccine hesitancy. The Centre distributed a wealth of information and other outputs on vaccinations over the evaluation timeframe, and contributed to relevant initiatives aimed at addressing vaccine hesitancy. There is evidence that this has been relevant and effective, especially for informing strategies and decision-makers both at EU and

national level. However, there is room to improve ECDC's work and cooperation with WHO in the area of vaccination coverage, in line with the European Council's Recommendation on Strengthened Cooperation against Vaccine Preventable Diseases. Furthermore, ECDC toolkits and manuals on vaccination are considered to be an effective output by consulted stakeholders, but an insufficient level of awareness of them amongst relevant stakeholders was identified as hindering their effectiveness.

More broadly, the visibility and reach of the Centre and its outputs was found to have significantly increased both within the traditional media sources and social media over the reference period. This is also evidenced by the rising impact factor of the Eurosurveillance journal. Nevertheless, the effectiveness of its outputs could be strengthened by increasing awareness of its outputs amongst public professionals and the media across Europe.

The European Surveillance System (TESSy) and EPIS platforms are effective tools for the collection, validation, analysis and dissemination of data at EU level. The user friendliness of the TESSy system has improved over the reference period and the tool has promoted harmonisation and coordination between Member States, with its added value concentrated in analysing long-term trends. Concerning the EPIS system, the tool was found to be particularly effective in alerting Member States to outbreaks, thereby facilitating national and multi-country responses to outbreaks. However, the evaluation found discrepancies in the participation of different Member States, which were linked to constraints in their capacities. The evaluation also found that the effectiveness of the EPIS-FWD could benefit from exploring additional synergies with EFSA.

The networking, training and technical assistance activities provided by ECDC are found to have effectively contributed to the prevention and/or control of communicable diseases. The evidence shows that ECDC outputs have contributed to the development of effective dedicated surveillance networks and cooperation between public health professionals, including between public health experts and reference laboratories. This has effectively contributed to the surveillance of communicable diseases. ECDC training activities are also found to be effective and have recorded high levels of demand. The ECDC Fellowship programme is also found to be very relevant and effective, but it is not sufficiently used by a number of Member States with low capacities in the area of public health epidemiology and microbiology. ECDC technical toolkits are found to be effective, although this could be strengthened via further promotion within relevant networks to increase awareness. ECDC country visits were highlighted as a valuable technical assistance activity, effective in building capacity, strengthening the collaboration between Member States and the Centre, and in raising awareness amongst national policy makers. There is evidence that their outputs have been used as input in national agenda setting and strategies.

The evaluation also finds that ECDC's tool for prioritisation ensures the relevance and effectiveness of the Centre's activities and work plan, with clear improvements over the reference period. Nevertheless, a factor identified as negatively influencing its effectiveness, is the extent to which the identified priorities are translated into the Centre's work programmes. Concerning deprioritisation, there is evidence that official mechanisms for deprioritisation are in place to inform the preparation of the annual work programme, but their use is limited. Instead, there is evidence of activities being deprioritised in 2017 during the implementation of the work programme. It should be ensured that both activities for prioritisation and deprioritisation are considered during the elaboration of the Centre's annual work programme to maximise the effectiveness and efficiency of the Centre's activities.

As regards ECDC's grant-funded activities, these are aligned with the Centre's objectives and EU policy goals on health security and there is no evidence that they have affected negatively the implementation of its core objectives. However, the Centre has to use its own human resource to implement such activities, which in a bigger magnitude, could be to the detriment of its implementation of its core activities. In addition, under the current grant financing mechanisms for activities in non-EU countries, ECDC's involvement is constrained by the availability of staff resources which can be dedicated to the implementation of grants. Given the Commission's need for continued support by ECDC for activities in non-EU countries, the resourcing mechanisms for such activities should be strengthened.

Finally, the evaluation identified a cross-cutting factor influencing the effectiveness of the Centre's activities, which pointed to the need for ECDC to strengthen its relations with Member States in various areas. For instance, in the case of RRAs, the relevance of their recommendations for Member States was limited at times, and that their effectiveness could be increased via evaluations of their utility at national level. Secondly, the evaluation found weaknesses related to the mechanisms in place for involving external/national experts in the development of the Centre's scientific outputs, including RRAs. In addition, the analysis found that the quality of the data collected via TESSy could be further improved via additional support to Member States with low reporting levels, and improving the processes for involving Member State experts. Further, variation in the reporting and activity of Member State representatives in ECDC's TESSy and EPIS tools was found to be negatively influencing the effectiveness of the

Centre's surveillance activities. As such, there is the need for the Centre to concentrate its efforts on identifying and addressing areas of weaknesses and improvements in relation to its activities with Member States.

### **Impact**

The high scientific quality of the Centre's outputs is a factor positively contributing to its impact that is supported by the high calibre of the Centre's scientific staff. Evidence from throughout the evaluation indicates that the Centre has provided significant added value through its international activities, especially in neighbouring countries. In line with this, the Centre's limited visibility was identified a factor constraining the Centre's impact. The Centre's impact could therefore be further enhanced by increasing its activities and visibility in regions outside of Europe.

ECDC surveys and studies have been used by Member State stakeholders to strengthen their national surveillance, prevention and control of communicable diseases. ECDC outputs in 'hot topic' areas appear to be especially appreciated by stakeholders. For instance, outputs on vector-borne diseases, vaccine effectiveness and AMR are reported to have been frequently used as the basis of recommendations and decision-making at the national level, and are often disseminated locally.

There is evidence that contribution to the Centre's activities has induced a marginal burden on Member States' resources and that it is largely offset by the indirect gain from the overall activities of the Centre, especially in relation to its epidemic intelligence activities. Further, that the Centre has at times contributed to a positive redistribution of Member States' resources.

### **Utility**

The assessment of the utility of ECDC's outputs and activities was positive. ECDC's tools and guidance, as well as its scientific journal *Eurosurveillance* were considered the most useful outputs by stakeholders consulted for the evaluation. This supports the analysis under the evaluation of the Centre's effectiveness, which found that the high quality of its scientific outputs has translated into their extensive use both at the EU and national level.

This was also supported by an analysis of the use of a sample of ECDC publications, which found evidence of their use in all EU/EEA Member States for policy-making at national level, for making recommendations on the basis of the information in the publication, as well for translation or sharing and local posting of the output.

The utility and satisfaction with the activities carried out by ECDC under its mandate to support the implementation of Decision 1082/2013 was also positively assessed. The role played by the Centre in the Health Security Committee is relevant and useful for the rest of the participants.

### **Added value**

The overall assessment of the added value of ECDC is positive and the Centre's work is aligned with EU-level health objectives. In the absence of an established reference framework for measuring the contribution of ECDC to enhancing health security for EU citizens from potential cross-border threats of health, the WHO IHR index for public health capacities was taken as a relevant indicator for the performance of EU countries against their IHR obligations. The analysis showed that although EU countries are at the low end of performance when benchmarked against non-EU/EEA OECD countries, their performance has increased over the reference period. Although this cannot be attributed exclusively to ECDC, the established effectiveness of the Centre's activities can be considered to have contributed to this result.

Similarly, there is a downward trend in the incidence of certain communicable diseases (tuberculosis, Hepatitis B and C) across the EU, which can be attributed to communicable disease intervention controls. Again, although this outcome cannot be exclusively attributed to ECDC, the established effectiveness of the Centre's activities can be considered to have contributed to this result. Secondly, there has been an uptake in the notification of cases of some infectious diseases, demonstrating the fact that there is accessible intelligence on the incidences of these infectious diseases, a visible demonstration of the results of ECDC's key activities. Finally, in-hospital surgical site infections incidence density for all types of procedures but one reported to ECDC decreased substantially between 2008 and 2016. The active monitoring of healthcare associated infections for these procedures undoubtedly will have assisted efforts to tackle them.

The evaluation also found that ECDC has successfully provided added value in the form of raised awareness in the areas of AMR, vaccination and vector-borne diseases over the evaluation period. The Centre had a high communication impact in the area of AMR and the European Antimicrobial Awareness Day is highlighted as a key success factor. In the area of vaccination, the Centre's added value in raising awareness is more concentrated at

the national level and especially policy-makers. Complementing this, ECDC activities and outputs have been of added value in terms of serving as input for policy-making both at the EU and national level.

There is evidence that a number of the Centre's activities provide added value by achieving lower costs due to its interventions, particularly by reducing the need for Member States to duplicate their activities and through the multilateral collaboration it facilitates. The former was particularly relevant concerning the Centre's epidemic intelligence activities. Nevertheless, there may be value in carrying out cost impact analyses to better understand and tailor its activities to national contexts, given Member State resource constraints.

Finally, ECDC's added value can be derived from the multiple examples of the Centre being drawn on as a model organisation both in the EU and international spheres. In addition, comparisons with other regions who lack an organisation comparable to ECDC highlight the added value it provides through increased coordination amongst regional actors to prevent and control communicable diseases, as well as respond to cross-border outbreaks. In summary, the gathered evidence indicates that in the Centre's absence, the most prominent consequence would be reduced coordination and harmonisation between Member States. This would have a negative impact on the management and response to cross-border threats and therefore adversely affect health security in the EU.

### **Coordination and coherence**

Overall, the evaluation assesses positively ECDC's coherence and coordination with other relevant bodies, with a general trend toward increasing coherence with its external partners over the evaluation period. The factors identified as positively influencing this aspect of the Centre's performance include the introduction of its Client Relationship Management system and the elaboration of the Competent Coordinating Body structures, the mechanism for obtaining external input into its programming activities and the Centre's staff's responsiveness and engagement with external partners.

The Centre was found to have effectively ensured coordination and complementarity with Member States, as well as coordination between Member States for surveillance, alert and preparedness. Although there is a lack of overlapping activities between the Centre and Member States, evaluation findings indicate that smaller Member States or Member States with less resourced Public Health institutes rely more heavily on ECDC input and support, while larger or more resourced Member States tend to view ECDC's activities as more complementary to their own. An identified area of improvement related to discrepancies between the quality of Member States' reporting and surveillance systems. This has a negative influence on the extent to which the Centre can ensure coordination in surveillance and more broadly on the effectiveness of the Centre's activities.

The evaluation also found that the Centre ensured a high degree of coordination with WHO, WHO GOARN and EU Agencies over the evaluation period. Collaboration with WHO has clearly improved over the evaluation period, although fine-tunings remain to be made in relation to the duplication of reporting between the ECDC EWRS and the WHO-operated IHR notification system. The coordinated response to the Ebola outbreak evidenced the effective level collaboration between ECDC and WHO GOARN. There are also numerous examples of effective collaboration initiatives between ECDC and its relevant EU sister agencies EFSA, EMA and EMCDDA, and these have been increasing over the reference period.

In comparison, coherence between ECDC and Commission services as well as the EU Health Programme was found to be somewhat weaker over the evaluation period. In relation to the EU Health Programme, evidence shows that there is a need to define more effective and efficient ways of involving ECDC in Joint Actions to avoid duplications and ensure the sustainability of EU-level outputs from the Actions.

Evidence shows that ECDC has been able to translate innovation and research into its activities of surveillance and alert for its own work, as well as make it accessible to Member States. The evaluation found that the ECDC has shown significant leadership in the field of whole genome sequencing, providing a strategic framework and successfully contributing to its uptake across the EU. The Centre was found to have also been successful in promoting innovation in laboratory methods. However, the evaluation found that the uptake of whole genome sequencing across Member States has been affected by resource constraints for national laboratories and this could be at least partially alleviated by technical support from the Centre in the form of, e.g. country visits to increase awareness on the topic amongst national policy-makers. The evaluation found less evidence of activity in the field of e-health over the evaluation period, although there is an emerging trend towards additional efforts in this field.

Finally, ECDC has fulfilled the requirements of the Common Approach on EU Decentralised Agencies and its Roadmap for the most part. In order to address actions which are only partly implemented, the Centre could consider the possibility of increasing the multilingual accessibility of (parts) of its website through the use of automated

translation tools. As regards the Centre's activities in the area of evaluation, it is found that the Management Board should consider whether there is a need for more input from the Centre in the line of ex-ante assessments, and whether more detailed versions of the currently used opportunity value studies could be of interest to them. Finally, the evaluation finds that in a situation where the Founding Regulation of ECDC is revised, it should formally include the requirement that the European Parliament is involved in the approval of its multi-annual or annual programme, as is currently the practice.

### **Efficiency**

The analysis of efficiency found that over the evaluated period, ECDC has improved the management of its resources, with evidence of improved resource planning and thereby performance in the last two years covered by the evaluation. Evidence suggests that the Centre successfully integrated the tasks entrusted to it through Decision 1082/2013, aside from a small discrepancy in resource planning for the preparedness and response unit in 2014. The evaluation found that there is a general sense of dissatisfaction amongst ECDC staff resulting from the lack of a clear corporate, strategic objectives underpinning the organisation's matrix structure. Actions to address these issues are currently underway. In connect to this, further actions to use the results of the application of activity-based budgeting and costing could facilitate the more efficient use of resources.

Although external factors such as outbreaks, international threats and political changes in terms of EU priorities in public health have influenced ECDC's work plans over the reference period, the evaluation did not come across evidence that they have had a negative impact on its efficiency. However, the evaluation did identify evidence that the necessary reallocations of human and financial resources that the Centre was required to make in order to adequately respond to the political prioritisation of the topic of vaccination required the deprioritisation of other activities, which were nevertheless considered important. This serves as an indication that the Centre's resources are constrained, and if there is a need for generally strengthen activities in these areas, whilst not retracting from other areas of the Centre's work, this should be linked to more resources.

The evaluation finds that the Centre's internal organisation, operations and working practices, as created by the Founding Regulation and Decision No 1082/2013/EU have been conducive to its efficiency. The roles and working practices of the ECDC Management Board and Advisory Forum are found to be conducive for its efficient operation. Nevertheless, evaluation findings show that the effectiveness of these bodies could be strengthened by fostering further synergies between the two, and ensuring that the Advisory Forum is drawn on for its expertise in relevant situations. Concerning monitoring and evaluation, ECDC has a framework in place that is found to be relevant for ensuring accountability and appropriate assessment of the overall performance of the Centre, but there is room for improvement in the comprehensiveness of monitoring indicators and the robustness of the mechanisms for follow-up on the results of internal evaluations.

ECDC's working methods and the introduction of the Competent Coordinating Body structure are found to be appropriate for encouraging the best input and day-to-day coordination of competent bodies, National Focal Points and independent experts. There is also a clear division and description of the roles of the different actors involved in the CCB, and the structure for their interactions is effective. Nevertheless, the efficiency of the system appears to be dependent on the degree of communication between the different actors holding these roles at national level.

In addition, the evaluation finds that there is a clear division of tasks between ECDC, the Health Security Committee, the Member States, the Commission, the Scientific Committees and the European Parliament, which has been conducive to the Centre's efficient implementation of its activities. Finally, ECDC is working on formalising its cooperation with different partners through Memoranda of Understanding ), which are considered to help clarifying responsibilities and expected efficiency from each party.

### **SWOT Analysis**

An analysis of ECDC's strengths, weaknesses, opportunities and threats (SWOT analysis) was carried out in order to provide cross-cutting conclusions about the performance of the Centre and to serve as a basis for the recommendations outlined in the following section. In the context of this assignment, the different categories of the SWOT analysis are interpreted according to the usual terminology:

- **Strengths:** the aspects of ECDC's approach / organisation / performance which are under its control and that contribute to making it successful;
- **Weaknesses:** areas of ECDC's approach / organisation / performance which make it less effective, and identified areas for improvement;
- **Opportunities:** areas in which the Centre can grow its activities in order to address existing needs and provide more added value;

- **Threats:** external factors / impacts that are negatively affecting ECDC's performance.

The SWOT Analysis of ECDC was developed on the basis of the evaluation findings, and focus group discussions with stakeholders of the Centre at Member State level.



### Strengths

One of the identified strengths of ECDC is the high scientific quality of its outputs - a key success factor for the overall effectiveness of the Centre. This strength is to be found in a broad range of the Centre's activities - from its Scientific Advice outputs to its technical assistance and training activities. In addition, evidence shows that this has translated into the Centre's good reputation for scientific excellence amongst its peers, as well as in a high demand for its services. In addition, this has corresponded with an extensive use of its outputs at both the EU and national level. There is also evidence that the Centre is capitalising on the strengths of its EU-level position to bring added value to Member States. For instance, ECDC has a strong capacity for coordination and effectively manages tools and systems for surveillance and alert among Member States. The Centre's corresponding provision of epidemic intelligence activities and support to fostering coordination and collaboration between Member States are clear examples of its EU added value. The Centre has also evidenced its capacity to adapt to emerging health threats and effectively respond in a crisis, most clearly exemplified by the effectiveness of its response to the Ebola outbreak. ECDC's cooperation and collaboration with other EU agencies and WHO over the evaluation period has improved its effectiveness, as well as its coherence with EU health policy objectives such as the One Health approach. Furthermore, ECDC has ensured clear working practices and processes for structuring input from Member States into its activities. This has promoted the efficient operation of ECDC by its governing bodies, ensured the effectiveness of its collaboration with Member States and ensured relevant input into its working programmes and activities.

### Weaknesses

ECDC's capacity to adapt and tailor its activities and outputs to the diverse contexts and needs of Member States was identified as a primary weakness. Specifically, the evaluation found that the Centre's efforts to assess Member States' needs and weaknesses and tailor its activities and outputs (e.g. surveillance systems, Rapid Risk

Assessments) accordingly was somewhat limited. This was found to have a negative influence on the effectiveness and relevance of its outputs. ECDC's dependency on other actors at national, European and international levels was identified as another weakness. The required coordination and coherence of its activities with other bodies working in the field at EU-level such as the Commission and WHO was found to lead to delays and overlaps in certain instances. As highlighted under the analysis of threats, its dependency on national actors' input induces risks concerning the quality and effectiveness of its activities, e.g. in the area of surveillance. Finally, the lack of a clear organisational structure following a clear corporate strategy and vision was identified as a factor negatively effecting ECDC's organisational performance and the efficiency with which it is carrying out its tasks.

### **Opportunities**

An opportunity to improve the effectiveness and efficiency of ECDC can be found in the available room to further focus its activities on addressing structural gaps and deficiencies in Member States' public health systems, which affect their ability to effectively contribute to and optimally benefit from ECDC's activities. In connection to this, another area of opportunity stems from an identified demand for ECDC's technical assistance and training activities from Member States. Specifically, there were frequently mentioned requests to increase the number of the Centre's country visits and training activities. The increasingly effective collaboration with relevant partners (e.g. sister EU agencies and the WHO) evidenced the added value of this cooperation and the potential for the Centre to continue to strengthen collaborative initiatives with relevant partners. In relation to this, there was a strong consensus among involved stakeholders that there is room to strengthen ECDC's involvement in relevant EU Joint Actions. This is to ensure the sustainability of the Joint Actions' results and promote coherence of activities at the EU-level. There is also room for the Centre to strengthen the visibility of its outputs amongst relevant stakeholders, including professional networks and the media. The momentum of increasing visibility within traditional and social media sources seen over the evaluation period should be capitalised on. Finally, stakeholders' satisfaction with ECDC's contribution to recent international outbreaks can be leveraged in strengthening the mandate and mechanisms for its international activities.

### **Threats**

A lack of clarity surrounding ECDC's mandate in the area of preparedness is limiting the effectiveness of the Centre's activities by creating uncertainty amongst its stakeholders, and leading to incidences of delays and overlaps. In relation to Member States, variation in the level and quality of reporting in ECDC surveillance systems is negatively effecting the Centre's surveillance activities. Furthermore, reduced national public health spending is putting pressure on ECDC's Member State counterparts to successfully carry out ECDC-related tasks, and a perception that there is weak recognition of this in ECDC's work planning is leading to frustrations. ECDC is also facing a budget dependent on EU allocations. The Centre's budget did not increase over the evaluation period, while the tasks it was required to carry out increased. Should the Centre's mandate be increased in the areas considered by the evaluation (international activities, cross-border threats to health in areas other than communicable diseases, non-communicable diseases), a corresponding increase in its resources would be needed to avoid risks for its current activities.

# Recommendations

The findings and conclusions of the evaluation are the basis for the following set of recommendations for improving the performance of the Centre in the future. The recommendations have been grouped to reflect the evaluation criteria considered as well as specific areas of activity for the Centre. Some of the recommendations (#7C, #9) may require legislative changes and if taken further, their timing will necessarily be tied to the legislative cycle at EU level. The timeline for implementation of the rest of the recommendations will be determined largely by the stage of development of ECDC's long-term strategy and the feasibility of incorporating them in the existing 3-year rolling plan of the Centre. Some of the recommendations (#4B, #8C) will likely have low resource requirements and can be considered as "quick wins". Several recommendations (#2A, #6A and 6B, #7C, #9) require that the European Commission is involved or takes lead in the follow-up activities.

## 1. Strengthened relevance of ECDC's work for Member States

Although the Centre's work is found to be relevant for the needs of public health professionals and decision-makers at EU and national level, ECDC should consider ways of reflecting better Member States' needs related to reductions in national spending in the area of public health. This consideration can be integrated and applied consistently in existing mechanisms for planning, prioritisation and provision of country support. ECDC should adapt its methodology for cost impact analyses to better understand the impact of its activities on resources used at national level and tailor its activities to the present constraints.

In general, ECDC should streamline in all areas of its work a focus on addressing structural gaps and deficiencies in Member States' public health systems that affect their ability to effectively contribute and optimally benefit from ECDC's activities.

## 2. ECDC's mandate under Decision 1082/2013

While ECDC is found to have effectively and efficiently integrated its additional tasks under Decision 1082/2013, the evaluation identified areas for improvement that can be addressed through the following recommendations:

- A. The European Commission and ECDC should undertake a review of current EU and international obligations in the area of preparedness and allocate more clearly the tasks between the EC, ECDC and Member States in order to avoid duplications and ensure synergies, including with obligations under IHR;
- B. ECDC should carry out a study of the use of Rapid Risk Assessment recommendations and strengthen the methodology for recommendation development, so as to increase their relevance and use. ECDC should also make more efforts to further involve the CCBs in the preparation of RRAs, as this can be expected increase the relevance of the assessments, stakeholders' buy-in to their results and follow-up.

## 3. ECDC's international activities

The evaluation found ECDC's international activities to have provided added value for the EU, but to have been constrained by resource limitations. Therefore, the evaluation recommends that:

- A. ECDC and the relevant Commission services should clarify as a matter of priority the modalities and financing mechanisms through which ECDC can carry out international activities, with a view to ensuring their long term sustainability;
- B. ECDC and the relevant Commission services strengthen their mechanisms for coordination in this area.

## 4. Collection, validation, analysis and dissemination of data

The analysis of the effectiveness of ECDC's activities related to the collection, validation, analysis and dissemination of data identified room for improvement that can be addressed through the following recommendations:

- A. Given the remaining gaps and differences in Member States' surveillance reporting for a number of diseases, ECDC's mechanisms for ensuring consistent and systematic surveillance reporting should be strengthened and the Centre should provide support (e.g. training) to Member States with low reporting frequency.
- B. The effectiveness of the analysis of TESSy data and quality of the ECDC outputs involving external expertise could be increased via further involvement of Member States' experts.

## **5. Awareness and utility of ECDC's outputs**

ECDC should increase its outreach to media stakeholders in order to increase awareness and use of its work. As part of this, ECDC should benchmark the performance of its communication activities against that of other relevant actors (e.g. WHO Europe, EFSA) through the media analytics tools it already applies.

## **6. Coordination and complementarity**

Although the evaluation offers a positive assessment of the coordination and complementarity between ECDC and its partners in other European Union Institutions and international organisations, two recommendations can be made in order to increase this further:

- A. There is still room to improve cooperation/coordination with WHO in facilitating Member States' compliance with reporting obligations under EU and international law, including in the area of vaccination coverage.
- B. ECDC and the EC should find a solution for ensuring more involvement of ECDC in the implementation of Joint Actions in order to avoid duplication and increase the sustainability of their EU-level outputs.

## **7. Implementation of the Common Approach on EU Decentralised Agencies and its Roadmap**

In order to address actions of the Common Approach on EU Decentralised Agencies and its Roadmap which are only partly implemented, the following recommendations are made:

- A. The Centre should consider the possibility of increasing the multilingual accessibility of (parts) of its website that would be most relevant for the general public through the use of automated translation tools.
- B. As regards the Centre's activities in the area of evaluation, it is for the Management Board to consider whether they need more input from the Centre in the line of ex-ante assessments and whether more detailed versions of the currently used opportunity value studies could be of interest to them.
- C. Should the Founding Regulation of ECDC be revised, it should include the requirement that the European Parliament is involved in the approval of its multi-annual or annual programme, as is currently done in practice.

## **8. Efficiency**

Several specific recommendations can be made to improve the efficiency of ECDC in terms of its organisation and process:

- A. The continuing need for more cooperation between the Management Board and Advisory Forum should be addressed as a matter of priority, following up on the work done by the Working Group set up to define measures in response to the issues noted by the previous evaluation.
- B. ECDC should continue improving the efficiency of its planning processes by reviewing and reporting on its activity-based budgeting and costing in a systematic manner, and ensuring that both activities for prioritisation and deprioritisation are taken into account during the elaboration of the annual work programme.
- C. The Key Performance Indicators through which ECDC monitors its performance should be revised to include more outcome-level indicators, as used in the present evaluation, in order to better capture the use, value and impact of the Centre's activities and outputs. The objective of measuring and demonstrating the impact delivered can be streamlined throughout the Centre's different streams of activities including the Disease Programmes and sections.
- D. ECDC's internal procedure for evaluation should be revised to include stronger mechanisms for ensuring the follow-up on recommendations from internal evaluations and thus ensuring that the targeted improvements to the Centre's operations are achieved.

## **9. Extension of the mandate of ECDC**

Given the identified evidence of needs for strengthened EU-level activities in the area of non-communicable diseases and the potential strengths and opportunities of ECDC for taking on these additional tasks, a full Impact Assessment, in line with the European Commission Better Regulation Guidelines, should be carried out on this issue. The Impact assessment can further define the needs (problems, drivers, consequences), the corresponding policy objectives and compare the options of: no change, extension of ECDC's mandate to these areas, or establishing a new EU Agency with a mandate in the areas considered. The Impact Assessment should also consider other areas where ECDC's mandate can be revised – in the areas of international activities and cross-border threats to health other than from communicable diseases.

# Appendices

# Appendix A: Evaluation Matrix

**Separate document**

# Appendix B: Methodological approach

Separate document

# Appendix C: Results of selected desk-research activities

Separate document

# Appendix D: Implementation of the Common Approach Roadmap

Separate document

# Appendix E: Stakeholder Mapping

Separate document

# Appendix F: Public Consultation Results

Separate document

# Endnotes

<sup>i</sup> An alternative would have been to compare a model reflecting the original understanding of the Agency's intervention logic ("to be" state) with the current one ("as is").

<sup>ii</sup> This refers to when enough data has been collected, until there are fewer surprises in the data and no more patterns or themes are emerging from the data. O'Reilly, M. and Parker, N., 2012. 'Unsatisfactory Saturation': a critical exploration of the notion of saturated sample sizes in qualitative research. *Qualitative Research*, [online] 13(2), pp.190–197. Available at: <<http://qrj.sagepub.com/cgi/doi/10.1177/1468794112446106>> [Accessed 21 Jul. 2019].

<sup>3</sup> An alternative would have been to compare a model reflecting the original understanding of the Agency's intervention logic ("to be" state) with the current one ("as is").

<sup>4</sup> This refers to when enough data has been collected, until there are fewer surprises in the data and no more patterns or themes are emerging from the data. O'Reilly, M. and Parker, N., 2012. 'Unsatisfactory Saturation': a critical exploration of the notion of saturated sample sizes in qualitative research. *Qualitative Research*, [online] 13(2), pp.190–197. Available at: <<http://qrj.sagepub.com/cgi/doi/10.1177/1468794112446106>> [Accessed 21 Jul. 2019].

<sup>5</sup> See methodological annex for further detail

<sup>6</sup> Article 168 Treaty on the Functioning of the European Union

<sup>7</sup> <http://www.europarl.europa.eu/factsheets/en/sheet/49/public-health>

<sup>8</sup> REGULATION (EC) No 851/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 21 April 2004 establishing a European centre for disease prevention and control, OJ EU L 142/1

<sup>9</sup> DECISION No 1082/2013/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 22 October 2013 on serious cross-border threats to health and repealing Decision No 2119/98/EC

<sup>10</sup> [https://www.who.int/topics/international\\_health\\_regulations/en/](https://www.who.int/topics/international_health_regulations/en/)

<sup>11</sup> Final flash report from the Plenary Meeting of the Health Security Committee 29-30 June 2017, Senningen/Luxembourg

<sup>12</sup> Following a decision of the ECDC Director, one ECDC expert can participate as relevant in JEE missions. The relevance indicates that the country is either EU MS, EU enlargement country, or European Neighbourhood Policy (ENP) partner country which ECDC has working relations with. The expertise requested by WHO should match the availability of experts in ECDC. The following table illustrates the main areas of expertise provided and the number of experts provided over the evaluation period, although experts might have covered other areas as well during the assessment.

Year	Country	Number of ECDC Staff	Comment
2016	Turkmenistan	0	Not relevant as ECDC has no working relations with Turkmenistan
2016	Jordan	0	
2016	Lebanon	0	
2016	Morocco	0	
2016	Albania	1	EC/ECDC assessment in Albania was carried out after the JEE mission in 2016. Legislation, governance.
2016	Armenia	0	
2016	Kyrgyzstan	0	Not relevant as ECDC has no working relations with Kyrgyzstan.
2016	Tunisia	0	
2017	Belgium	1	EU MS. Surveillance
2017	Finland	1	EU MS. Training
2017	Latvia	1	EU MS. Preparedness
2017	Slovenia	1	EU MS. Public health microbiology.
2017	Switzerland	0	Not relevant

<sup>13</sup> Health and Human Rights in Europe (2012)

<sup>14</sup> <https://fra.europa.eu/en/press-release/2011/eu-right-healthcare-not-guaranteed-practice>

<sup>15</sup> ECDC (2018) Public health guidance on screening and vaccination for infectious diseases in newly arrived migrants within the EU/EEA

<sup>16</sup> In the context of this evaluation question, the qualification "essential" is considered to be a degree of "relevance". The aspect of the qualification which can be interpreted as "indispensable" is reflected in the analysis of Added Value under EQs 11-14.

<sup>17</sup> Council Recommendation of 15 November 2001 on the prudent use of antimicrobial agents in human medicine (Text with EEA relevance)

OJ L 34, 5.2.2002, p. 13–16

<sup>18</sup> ECDC Strategic multi-annual programme 2007–2013

<sup>19</sup> ECDC Strategic multi-annual programme 2014–2020

<sup>20</sup> ECDC Comparison of Title 3 budget and staff for 2012-2018 (on the basis of Annual Work Programmes)

<sup>21</sup> ECDC/EMA Joint Technical Report: The bacterial challenge: time to react (2009)

<sup>22</sup> ECDC Point prevalence survey of healthcare-associated infections and antimicrobial use in European acute care hospitals 2011–2012, 2014

<sup>23</sup> Final Report of ECDC Stakeholder Survey (2015), MB37/16

<sup>24</sup> Final Report of ECDC Stakeholder Survey (2014), MB34/17

<sup>25</sup> McKinsey & Company (2018). European public health market assessment.

<sup>26</sup> ECDC Comparison of Title 3 budget and staff for 2012-2018 (on the basis of Annual Work Programmes)

<sup>27</sup> <https://vaccine-schedule.ecdc.europa.eu/>

<sup>28</sup> ECDC Catalogue of interventions addressing vaccine hesitancy (2017)

<sup>29</sup> Minutes of 43<sup>rd</sup> meeting of the ECDC Management Board (§ 67)

<sup>30</sup> Final Report of ECDC Stakeholder Survey (2015), MB37/16; Final Report of ECDC Stakeholder Survey (2014), MB34/17

<sup>31</sup> Official Journal of the European Union. Regulation (EC) No 851/2004 of the European Parliament and of the Council of 21 April 2004 establishing a European centre for disease prevention and control (OJ L 142, 30.04.2004, p. 1), cf. art. 3, 9, 11 and 30. 2

<sup>32</sup> ECDC International Relations Policy 2014;

ECDC International Relations Policy 2020

<sup>33</sup> ECDC Unit Director's Office – International Relations Section(2016) Evaluation - ECDC Ebola deployment in Guinea

<sup>34</sup> European Commission, DG ECHO, ECDC mandate and support capacity for EU humanitarian and development policies and operations - Note to Xavier Prats Monné, Director-General, DG SANTE, from 22 April 2016.

<sup>35</sup> European Commission and Ministry of Health of Luxembourg (2015) Conference "lessons learned for public health from the Ebola outbreak in West Africa – how to improve preparedness and response in the EU for future outbreaks". Conference summary report

<sup>36</sup> ECDC Unit Director's Office – International Relations Section(2016) Evaluation - ECDC Ebola deployment in Guinea

- <sup>37</sup> See also analysis in Quaglio, Gianluca & Goerens, Charles & Putoto, Giovanni & Rübzig, Paul & Lafaye, Pierre & Karapiperis, Theodoros & Dario, Claudio & Delaunois, Paul & Zachariah, Rony. (2015). Ebola: Lessons learned and future challenges for Europe. *The Lancet Infectious Diseases*. 16. 10.1016/S1473-3099(15)00361-8.
- <sup>38</sup> It should be noted that this is also an outcome linked to the different mandates of the two Centres. Specifically, the US CDC is a national public health institute with the mandate to maintain a strong and effective global health presence. In comparison, ECDC is an EU scientific agency. As such, its mandate is different from that of the US CDC's, as defined in Article 9 of its Founding Regulation (No 851/2004), whereby the Centre 'may be requested by the Commission, the Member States, third countries and international organisations (in particular the WHO) to provide scientific or technical assistance in any field within its mission'.
- <sup>40</sup> European Commission, DG SANTE, ECDC mandate and support capacity for EU humanitarian and development policies and operations - Note for the attention of Fernando Frutuoso, Director General, DEVCO and Monique Pariat, Director General, ECHO, from 19 February 2016.
- <sup>41</sup> European Commission, DG SANTE, ECDC mandate and support capacity for EU humanitarian and development policies and operations - Note for the attention of Fernando Frutuoso, Director General, DEVCO and Monique Pariat, Director General, ECHO, from 19 February 2016.
- <sup>42</sup> <http://www.europarl.europa.eu/news/en/headlines/society/20170629STO78630/asylum-and-migration-in-the-eu-facts-and-figures>
- <sup>43</sup> <https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2018.23.28.1800283>
- <sup>44</sup> Based on a search carried out in March 2019 on all publications with the key terms "migration", "refugee" and "asylum". A total of 318 unique publications containing these terms were identified in Eurosurveillance. The publications were reviewed to establish whether the subjects are indeed addressed in the publication or are only mentioned in the bibliography. For 2014-2018, 66 relevant publications were identified.
- <sup>45</sup> ECDC Communication Strategy 2016-2020
- <sup>46</sup> The only group for which no secondary data sources were found to support findings from consultation activities were for regional policy makers
- <sup>47</sup> Bijkerk, P., Monnier, A., Fanoy, E., Kardamanidis, K., Friesema, I., & Knol, M. (2017). ECDC Round Table Report and ProMed-mail most useful international information sources for the Netherlands Early Warning Committee. *Eurosurveillance*, 22(14). doi: 10.2807/1560-7917.es.2017.22.14.30502
- ECDC second external evaluation**
- <sup>49</sup> ECDC Communication Strategy 2016-2020
- <sup>50</sup> see e.g. Draft ECDC Single Programming Document 2017-2019 MB37/07
- <sup>51</sup> According to information available in ECDC's Annual reports as well as published mission reports, ECDC has carried out 37 country visits to 16 Member States in the period under evaluation.
- <sup>52</sup> For an overview of the Commission actions which support EU countries to achieve the UN Sustainable Development Goals see: [https://ec.europa.eu/health/eu-in-the-world/sustainable\\_development\\_goals\\_en](https://ec.europa.eu/health/eu-in-the-world/sustainable_development_goals_en)
- <sup>53</sup> Minutes of the Twenty-ninth Meeting of the ECDC Management Board, Stockholm, 13-14 November 2013. Reviewed documentation (annual reports, subsequent minutes of MB meetings, did not identify information about the results of the Task Force's activities).
- <sup>54</sup> DECISION No 1082/2013/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 22 October 2013 on serious cross-border threats to health and repealing Decision No 2119/98/EC
- <sup>55</sup> Court of Auditors Annual report on EU agencies for the financial year 2017 (2018/C 434/01) and
- <sup>56</sup> Financial Regulation of the European Centre for Disease Prevention and Control and its implementing rules adopted by the Management Board on 28 March 2014
- <sup>57</sup> ECHA and EMA Final Annual Reports and Final Annual Accounts
- <sup>58</sup> EFSA - data taken from EFSA Final Annual Accounts 2013-2017
- <sup>59</sup> Factors external to the Centre are largely the cause of the high percentage of pre-financing to be returned to the EC in 2015. Specifically, a total of 1 080 000 EUR related to salaries and allowances was not spent due to a decrease in the weighting factor applied to remunerations of staff. This was exasperated for ECDC due to the impact of the correction coefficient to remunerations due to its location in Stockholm and the fluctuations in the Swedish krona. Finally, the pending appointment, and subsequent vacancy of the Director led to a delay in a number of senior post recruitments. The high percentage of pre-financing to be returned to the EC in 2015 can therefore be considered an anomaly, largely due to the occurrence of unforeseen events external to the Centre's control.
- <sup>60</sup> Final Annual Accounts 2013-2017
- <sup>61</sup> This is in line with of the provisions of the Founding Regulation (EC) No 851/2004, Art. 18(4)(f) of the Centre according to which, the Advisory Forum should "ensure close cooperation between the Centre and the competent bodies in the Member States in particular on [...] (f) scientific and public health priorities to be addressed in the work programme."
- <sup>62</sup> Rules of procedure of the ECDC Advisory Forum, adopted by the ECDC Management Board at its fifth meeting in Stockholm, 13-14 December 2005
- <sup>63</sup> ECDC 2017 Annual Report
- <sup>64</sup> European Commission Communication (COM(2000) 1final) on the precautionary principle
- <sup>65</sup> Financing for activities prior to 2013 was received under EC financing for pre-accession countries.
- <sup>66</sup> Single Programming Document 2017
- <sup>67</sup> ECDC Technical Document. Evaluation of ECDC Ebola deployment in Guinea. (2017)
- <sup>68</sup> ECDC international relations policy 2014-2020
- <sup>69</sup> <https://www.imi.europa.eu/>
- <sup>70</sup> <https://www.imi.europa.eu/projects-results/project-factsheets/advance>
- <sup>71</sup> ECDC Management Board, Criteria for ECDC participating in projects involving private sector partners, MB 35/15
- <sup>72</sup> COMMISSION STAFF WORKING PAPER IMPACT ASSESSMENT /\* SEC/2011/1519 final - COD 2011/0421 \*/
- <sup>73</sup> COMMISSION DECISION of 7.8.2015 on establishing Scientific Committees in the field of public health, consumer safety and the environment
- <sup>74</sup> Council of the European Union, Interinstitutional File 2011/0421 (COD) Statement by Luxembourg, 27 September 2013
- <sup>75</sup> European Commission, Background information on the Rapid Risk Assessment of chemical threats provided by the SCHEER
- <sup>76</sup> European Commission (2018) HEALTH THREATS 2009-2018 EU-funded actions for better preparedness and coordination in health crisis
- <sup>77</sup> Classification based on European Observatory on Health System and Policies (2014) Facets of Public Health in Europe [http://www.euro.who.int/\\_data/assets/pdf\\_file/0003/271074/Facets-of-Public-Health-in-Europe.pdf](http://www.euro.who.int/_data/assets/pdf_file/0003/271074/Facets-of-Public-Health-in-Europe.pdf)
- <sup>78</sup> "ECDC Threat Assessment - Russian Forest Fires (12 August 2010)" and "Interim Threat Assessment – Ash cloud following volcanic eruption in Iceland (16 April 2010)"; "ECDC Rapid Risk Assessment: Floods in Bosnia and Herzegovina, Croatia, and Serbia: communicable disease risks" (2014)
- <sup>79</sup> Health information and monitoring are discussed together, due to the close links between the two areas.
- <sup>80</sup> Bridge Health: Concept Paper Technical Report BRIDGE Health N° WP1\_2016\_03
- <sup>81</sup> Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work
- <sup>82</sup> European Health Interview Survey (2018/255, 2013/141) Healthcare expenditure and financing (2015/359) Causes of death (2011/328) Accidents at work (2011/349).
- <sup>83</sup> Regulation (EU) No 1260/2013 of the European Parliament and of the Council of 20 November 2013 on European demographic statistics
- <sup>84</sup> [https://ec.europa.eu/health/sites/health/files/indicators/docs/ev\\_20171206\\_co09\\_en.pdf](https://ec.europa.eu/health/sites/health/files/indicators/docs/ev_20171206_co09_en.pdf)
- <sup>85</sup> See e.g. European Parliament Opinion of the Committee on the Internal Market and Consumer Protection (9.4.2008) for the Committee on the Environment, Public Health and Food Safety on White Paper on Nutrition, Overweight and Obesity related health issues (2007/2285(INI))
- <sup>86</sup> See Council of the European Union, Council conclusions to contribute towards halting the rise in Childhood Overweight and Obesity (2017/C 205/03);

Council of the European Union, Council conclusions: towards modern, responsive and sustainable health systems (2011/C 202/04), OJ EU, 2011, vol. 54 (pg. 10-2);

<sup>87</sup> European Commission, COMMUNICATION FROM THE COMMISSION On effective, accessible and resilient health systems, COM(2014) 215 final

<sup>88</sup> European Commission, Highlights of recent EGHI and EGHI sub-group meetings, Accessed in April 2019 on [https://ec.europa.eu/health/indicators/expertgroup/highlights\\_en](https://ec.europa.eu/health/indicators/expertgroup/highlights_en)

<sup>89</sup> Regulation (EU) No 282/2014 of the European Parliament and of the Council of 11 March 2014 on the establishment of a third Programme for the Union's action in the field of health (2014-2020) and repealing Decision No 1350/2007/EC Text with EEA relevance, OJ L 86, 21.3.2014

<sup>90</sup> See ECHI Indicators on [https://ec.europa.eu/health/indicators/echi/list\\_en](https://ec.europa.eu/health/indicators/echi/list_en)

<sup>91</sup> See e.g. Bogaert P, Van Oyen H, for BRIDGE Health. An integrated and sustainable EU health information system: national public health institutes' needs and possible benefits. Arch Public Health. 2017;75:3. Published 2017 Jan 18. Doi:10.1186/s13690-016-0171-7;

Nicole Rosenkötter, Peter W. Achterberg, Marja J.H. van Bon-Martens, Kai Michelsen, Hans A.M. van Oers, Helmut Brand, Key features of an EU health information system: a concept mapping study, European Journal of Public Health, Volume 26, Issue 1, February 2016, Pages 65–70, <https://doi.org/10.1093/eurpub/ckv075>

<sup>92</sup> BRIDGE Health defined EU health information system as follows: "An EU health information system is an integrated effort to collect, process, analyse, report, communicate and use comparable health information and knowledge covering all Member States to understand the dynamics of the health of EU citizens and populations in

order to support policy and decision-making, programme action, individual and public health outcomes, health system functioning, outputs and research in the European Union." See Bridge Health: Concept Paper - Technical Report BRIDGE Health N° WP1\_2016\_03

<sup>93</sup> Bridge Health: Concept Paper - Technical Report BRIDGE Health N° WP1\_2016\_03

<sup>94</sup> Bridge Health: Concept Paper - Technical Report BRIDGE Health N° WP1\_2016\_03

<sup>95</sup> See e.g. Expert Group on Social Determinants and Health Inequalities

<sup>96</sup> See Mariken J. Tjhuis (2017) Mapping: Linkages between Joint Action and WHO EHII mapping exercises. Presentation.

[https://ec.europa.eu/health/sites/health/files/indicators/docs/ev\\_20171206\\_co03\\_en.pdf](https://ec.europa.eu/health/sites/health/files/indicators/docs/ev_20171206_co03_en.pdf)

<sup>97</sup> See [https://ec.europa.eu/health/social\\_determinants/projects/ep\\_funded\\_projects\\_en#fragment1](https://ec.europa.eu/health/social_determinants/projects/ep_funded_projects_en#fragment1)

<sup>98</sup> See European Portal for Action on Health Inequalities <http://www.health-inequalities.eu/projects/past-projects/equity-action/>

<sup>99</sup> Joint Action website available on <https://jahee.iss.it/>

<sup>100</sup> EpiConcept (2019) Evaluation of EU/EEA public health surveillance systems (EPHESUS) - Report for the evaluation of the European Antimicrobial Consumption Surveillance System (ESAC-Net)

<sup>101</sup> Health behaviour and promotion are discussed together, due to the close links between the two areas.

<sup>102</sup> See <https://ec.europa.eu/jrc/en/health-knowledge-gateway>

<sup>103</sup> CHRODIS PLUS Joint Action is a three-year initiative (2017-2020), which in the area of health promotion includes activities on analysing and assessing countries' health promotion and disease prevention strategies; implementing good practices with projects specifically targeting children, the working population, and older people; and better integrating health promotion and disease prevention in the healthcare and wider social care systems, See <http://chrodis.eu/outcomes-results/>

<sup>104</sup> Chrodis Joint Action (2018) Health Promotion and Primary Prevention in 21 European Countries A Comparative Overview of Key Policies, Approaches, Examples of Good Practice, and Gaps and Needs. Available at <http://chrodis.eu/wp-content/uploads/2019/03/final-chrodis-plus-country-questionnaire-overview-report.pdf>

<sup>105</sup> Bridge Health: Concept Paper - Technical Report BRIDGE Health N° WP1\_2016\_03

<sup>106</sup> European Commission (2014) Memorandum on Dedicated Surveillance Networks in the context of the Centre. Reference: MB1/14

<sup>107</sup> Please see Appendix B methodological approach for further detail of focus group

<sup>108</sup> Source: own elaboration based on feedback from Focus Group

<sup>109</sup> DECISION No 1082/2013/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 22 October 2013 on serious cross-border threats to health and repealing Decision No 2119/98/EC

<sup>110</sup> Mostly stakeholders with a strong knowledge of the Centre's work and/or the Decision 1082/2013 i.e. ECDC staff, European Commission representatives, ECDC Management Board members and ECDC Advisory Forum members.

<sup>111</sup> See e.g. ECDC Management Board MB31/Minutes - Item 13 – Decision 1082/2013/EU on serious cross-border threats to health: "the new decision brings nothing revolutionary".

<sup>112</sup> See Annual report of the Director 2013 - Introduction by the Director states that "Decision 1082/2013 does not change ECDC's mandate, but providing the Commission and Member States with technical support in implementing this important new legislation will be a key priority for ECDC in 2014 and beyond."

<sup>113</sup> Report on the implementation of Decision No 1082/2013/EU of the European Parliament and of the Council of 22 October 2013 on serious cross-border threats to health and repealing Decision No 2119/98/EC. COM(2015) 617 final. See p. 6 "The adoption of Decision 1082/2013/EU gave new impetus to the EU/EEA surveillance activities coordinated by ECDC."

<sup>114</sup> European Court of Auditors (2016) Special Report No.28 Dealing with serious cross-border threats to health in the EU: important steps taken but more needs to be done. ISBN 978-92-872-6122-9

<sup>115</sup> Action Plan to strengthen preparedness to cross-border health threats in the EU and support the use of the International Health Regulations

<sup>116</sup> Second revised document on Preparedness and Response Support Strategy 2018 – 2022, Document number: MB43/05

<sup>117</sup> ECDC 2015 Work Programme Priorities - Document number: MB30/7

<sup>118</sup> Technical support to DG SANCO for implementation of Decision 1082/2013:

- Develop criteria and guidance for prioritisation of critical sectors
- Assistance in analysis and reporting on Template (ex Art. 4) for the HSC
- Other ad-hoc requests, including input into joint procurement and implementing act on declaration of emergencies

<sup>119</sup> Support capacity building on risk and crisis communication related to Decision 1082/2013

- Support to SANCO on implementation of Decision 1082/2013

- Develop an ECDC Framework Programme for Risk and Crisis Communication

- Regional tailored capacity building workshops on risk communication

- Tools and guidance on risk communication to support the MS

<sup>120</sup> European Centre for Disease Prevention and Control. Annual report of the Director – 2013. Stockholm: ECDC; 2014.

<sup>121</sup> Health Security Committee Plenary Meeting 28/29 November 2013 [Draft Minutes](#)

<sup>122</sup> Report on the implementation of Decision No 1082/2013/EU of the European Parliament and of the Council of 22 October 2013 on serious cross-border threats to health and repealing Decision No 2119/98/EC. COM(2015) 617 final

<sup>123</sup> ECDC (2018) Survey on the recognition and use of ECDC Rapid Risk Assessments (RRA) by the Health Security Committee representatives. Technical report

<sup>124</sup> Although evidence from the analysis under SEQ 20.2 suggests that the integration of tasks entrusted to the Centre through the Decision possibly induced slight inefficiencies in resource planning for the preparedness and response unit in 2014.

<sup>125</sup> European Court of Auditors (2016) Special Report No.28 Dealing with serious cross-border threats to health in the EU: important steps taken but more needs to be done. ISBN 978-92-872-6122-9

<sup>126</sup> EPHESUS evaluation report on Legionnaires' disease surveillance for scientific advice, EPHESUS evaluation report on the EU/EEA surveillance of antimicrobial consumption for scientific advice, EPHESUS evaluation report on the EU/EEA surveillance of seven priority food- and waterborne diseases. establishing a European centre for disease prevention and control

DECISIONS. DECISION No 1082/2013/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 22 October 2013 on serious cross-border threats to health

<sup>129</sup> <https://ecdc.europa.eu/en/threats-and-outbreaks/reports-and-data/risk-assessments>

<sup>130</sup> Final flash report from the Plenary Meeting of the Health Security Committee 29-30 June 2017, Senningen/Luxembourg; European Commission (2015). Report on the implementation of Decision No 1082/2013/EU of the European Parliament and of the Council of 22 October 2013 on serious cross-border threats to health and repealing Decision No 2119/98/EC. REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL. Brussels.

<sup>131</sup> European Court of Auditors (2016). Dealing with serious cross-border threats to health in the EU: important steps taken but more needs to be done. Special Report 28. Publications Office of the European Union.; European Court of Auditors (2016). Union Civil Protection Mechanism: the coordination of responses to disasters outside the EU has been broadly effective. Special Report 33. Publications Office of the European Union

<sup>132</sup> European Commission (2015). Report on the implementation of Decision No 1082/2013/EU of the European Parliament and of the Council of 22 October 2013 on serious cross-border threats to health and repealing Decision No 2119/98/EC. REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL. Brussels.

<sup>133</sup> ECDC stakeholder surveys 2014 and 2015

<sup>134</sup> Reports given as examples of when there was a lack of timeliness by consulted stakeholders of the evaluation included the ECDC Monkey pox RRA (21 September 2018) and the joint RRAs with EFSA.

<sup>135</sup> Annual reports of the Director 2015-2017

<sup>136</sup> ECDC stakeholder surveys (2014 and 2015) and ECDC 3rd External Evaluation survey

<sup>137</sup> Rapid Risk Assessment: Early large increase in West Nile virus infections reported in the EU/EEA and EU neighbouring countries

<sup>138</sup> ECDC Management Board minutes (Document MB40/Minutes)

<sup>139</sup> The analysis used abductive reasoning to identify common types of recommendations within the Rapid Risk Assessments. Recommendations were then classified and quantified under the identified themes-

<sup>140</sup> European Commission (2015). Report on the implementation of Decision No 1082/2013/EU of the European Parliament and of the Council of 22 October 2013 on serious cross-border threats to health and repealing Decision No 2119/98/EC. REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL. Brussels.

<sup>141</sup> ECDC stakeholder survey 2014 and 2015

<sup>142</sup> Annual Report of the Director 2014

<sup>143</sup> <https://ecdc.europa.eu/en/publications-data/early-warning-and-response-system-european-union-ewrs>

<sup>144</sup> <https://ecdc.europa.eu/en/publications-data/early-warning-and-response-system-european-union-ewrs>

<sup>145</sup> ECDC Management Board minutes (Document number: MB Extraordinary 2/Minutes)

<sup>146</sup> See, e.g. Rapid Risk Assessment: Multinational outbreak of Salmonella Enteritidis infections among junior ice hockey players attending the Riga Cup 2015; Rapid Risk Assessment: Multidrug-resistant tuberculosis in migrants, multi-country cluster

<sup>147</sup> ECDC Advisory Forum minutes (Document number: AF52/Minutes)

<sup>148</sup> Please see Appendix B methodological approach for further detail of focus group

<sup>149</sup> Bijkerk, P., Monnier, A., Fanoy, E., Kardamanidis, K., Friesema, I., & Knol, M. (2017). ECDC Round Table Report and ProMed-mail most useful international information sources for the Netherlands Early Warning Committee. *Eurosurveillance*, 22(14). doi: 10.2807/1560-7917.es.2017.22.14.30502

<sup>150</sup> <http://www.promedmail.org/>

<sup>151</sup> Please refer to appendic

<sup>152</sup> Data provided by ECDC

<sup>153</sup> Data provided by ECDC

European Commission (2015). Report on the implementation of Decision No 1082/2013/EU of the European Parliament and of the Council of 22 October 2013 on serious cross-border threats to health and repealing Decision No 2119/98/EC. REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL. Brussels.

<sup>155</sup> Although it should be noted that this comparison is made against data on individual publications

<sup>156</sup> EPHESUS evaluation report on European Legionnaires' Disease Surveillance System

<sup>157</sup> Health Security Committee Flash reports 2016-2018

<sup>158</sup> ECDC Annual Report of the Director 2015

<sup>159</sup> ECDC Evaluation Final Report – ECDC Ebola deployment in Guinea. September 2016

<sup>160</sup> Rapid Risk Assessment: Multi-country outbreak of Salmonella Enteritidis phage type 8, MLVA type 2-9-7-3-2 and 2-9-6-3-2 infections 2016

<sup>161</sup> See Peron E, Zaharia A, Zota L, Severi E, Mårdh O, Usein C, Bălgrădean M, Espinosa L, Jansa J, Scavia G, Rafila A, Serban A, Pistol A. Early findings in outbreak of

haemolytic uraemic syndrome among young children caused by Shiga toxin-producing *Escherichia coli*, Romania, January to February 2016. *Euro Surveill.*

2016;21(11):pii=30170. DOI: <http://dx.doi.org/10.2807/1560-7917.ES.2016.21.11.30170>

<sup>162</sup> Usein Codruța-Romanița, Ciontea Adriana Simona, Militaru Cornelia Mădălina, Condei Maria, Dinu Sorin, Oprea Mihaela, Cristea Daniela, Michelacci Valeria, Scavia

Gaia, Zota Lavinia Cipriana, Zaharia Alina, Morabito Stefano. Molecular characterisation of human Shiga toxin-producing *Escherichia coli* O26 strains: results of an

outbreak investigation, Romania, February to August 2016. *Euro Surveill.* 2017;22(47):pii=17-00148.

<sup>163</sup> ECDC (2016) Rapid Risk Assessment: Multi-country outbreak of Shiga toxin-producing *Escherichia coli* infection associated with haemolytic uraemic syndrome 5 April 2016

<sup>164</sup> Usein Codruța-Romanița, Ciontea Adriana Simona, Militaru Cornelia Mădălina, Condei Maria, Dinu Sorin, Oprea Mihaela, Cristea Daniela, Michelacci Valeria, Scavia

Gaia, Zota Lavinia Cipriana, Zaharia Alina, Morabito Stefano. Molecular characterisation of human Shiga toxin-producing *Escherichia coli* O26 strains: results of an

outbreak investigation, Romania, February to August 2016. *Euro Surveill.* 2017;22(47):pii=17-00148.

Establishing a European centre for disease prevention and control

<sup>166</sup> Annual report of the Director 2014

<sup>167</sup> Annual report of the Director 2015

<sup>168</sup> ECDC Evaluation Final Report – ECDC Ebola deployment in Guinea. September 2016

<sup>169</sup> ECDC Annual Reports of the Director

<sup>170</sup> ECDC Advisory Forum minutes (Document numbers: AF34/Minutes, AF43/02, AF45/02, AF45/Minutes, AF49/Minutes, AF50/Minutes, AF52/Minutes)

<sup>171</sup> European Commission Staff Working Document on Combatting HIV/AIDS, viral hepatitis and tuberculosis in the European Union and neighbouring countries - State of play, policy instruments and good practices. (Document number: SWD(2018) 387 final). 2018

<sup>172</sup> European Commission Staff Working Document on Combatting HIV/AIDS, viral hepatitis and tuberculosis in the European Union and neighbouring countries - State of play, policy instruments and good practices. (Document number: SWD(2018) 387 final). 2018

<sup>173</sup> ECDC Advisory Forum minutes (Document number: A44/2); European Commission (2015). Report on the implementation of Decision No 1082/2013/EU of the European Parliament and of the Council of 22 October 2013 on serious cross-border threats to health and repealing Decision No 2119/98/EC. REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL. Brussels.

<sup>174</sup> <https://ecdc.europa.eu/sites/portal/files/media/en/publications/Publications/crimean-congo-haemorrhagic-fever-spain-risk-assessment.pdf>

; <https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2018.23.46.1800394>

<https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2018.23.28.1800283>

<sup>177</sup> Although this falls outside the ex-post evaluation period, it constitutes a good example of the geographical scope of the Journal's impact

<sup>178</sup> Interim estimates of 2018/19 vaccine effectiveness against influenza A(H1N1)pdm09, Canada, January 2019.

[https://www.eurosurveillance.org/content/10.2807/1560-](https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2019.24.4.1900055?emailalert=true&fbclid=IwAR11T4tSNWiU6pYoPuejcdTSJ0aQB1Er5uMbOsUVkcJB3tIGJOFPE1PvA)

[7917.ES.2019.24.4.1900055?emailalert=true&fbclid=IwAR11T4tSNWiU6pYoPuejcdTSJ0aQB1Er5uMbOsUVkcJB3tIGJOFPE1PvA.](https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2019.24.4.1900055?emailalert=true&fbclid=IwAR11T4tSNWiU6pYoPuejcdTSJ0aQB1Er5uMbOsUVkcJB3tIGJOFPE1PvA)

<sup>179</sup> ECDC Management Board minutes (Document MB38/Minutes)

es and rubella), weekly (for influenza and West Nile fever) or daily (for travel-associated Legionnaires' disease), as required for specific objectives, outputs and ensuing public health actions.

<sup>181</sup> ECDC Corporate Document: Long-term surveillance strategy (revised), 2014–2020

<sup>182</sup> This variable consists of a mix of the following indicators ; covers a mix of the following scenarios:

1. A TESSy user (internal or external) **opens** one of the dynamically generated online **Tessy reports**. Publicly available reports on the ECDC web portal are also included.

2. A TESSy user (internal or external) **refreshes (or changes parameters)** one of the dynamically generated online **Tessy reports**. Publicly available reports on the ECDC web portal are also included.

3. A TESSy user (internal or external) **downloads a dataset** from the TESSy user interface

4. A TESSy user (internal or external) runs a **data query** from the TESSy user interface producing tabled aggregated data

5. An ECDC **data manager extracts data** from the TESSy database

It should be noted that the variable does not capture routine outputs that are based on TESSy data, i.e. the Atlas, the AER, the monthly measles and WNF reports, the weekly flu bulletin, the enhanced annual reports etc.

<sup>183</sup> [www.flunewseurope.org](http://www.flunewseurope.org)

<sup>184</sup> Data provided by ECDC

<sup>185</sup> Draft report for the evaluation of the European Food- and Waterborne Disease Surveillance System for campylobacteriosis, listeriosis, non-typhoidal salmonellosis, shigellosis, STEC/VTEC infection, hepatitis A, and yersiniosis (FWD-7)

<sup>186</sup> Draft report for the evaluation of the European Food- and Waterborne Disease Surveillance System for campylobacteriosis, listeriosis, non-typhoidal salmonellosis, shigellosis, STEC/VTEC infection, hepatitis A, and yersiniosis (FWD-7)

<sup>187</sup> ECDC Chief Scientist's Annual Report on the work of the Advisory Forum (Document number: MB42/13)

<sup>188</sup> EPHESUS evaluation report on Legionnaires' Disease, EPHESUS evaluation report on the EU/EEA surveillance of antimicrobial consumption for scientific advice, EPHESUS evaluation report on the EU/EEA surveillance of seven priority food- and waterborne diseases.

<sup>189</sup> EPHESUS Report for the evaluation of the European Legionnaires' Disease Surveillance System; Draft report for the evaluation of the European Food- and Waterborne Disease Surveillance System for campylobacteriosis, listeriosis, non-typhoidal salmonellosis, shigellosis, STEC/VTEC infection, hepatitis A, and yersiniosis (FWD-7); EPHESUS: evaluation of EU/EEA surveillance of antimicrobial consumption (ESAC-Net)

<sup>190</sup> No explanation was found in the Annual Epidemiological Reports as to why no data on the Petrusis virus was reported by France and no data on HIV was reported by Germany.

<sup>191</sup> ECDC Surveillance Report. Annual Epidemiological Report for 2017 : Petrusis; ECDC Surveillance Report. Annual Epidemiological Report for 2017 : HIV

<sup>192</sup> Jajosky RA, Groseclose SL. Evaluation of reporting timeliness of public health surveillance systems for infectious diseases. BMC public health. 2004 Dec;4(1):29

<sup>193</sup> <https://ecdc.europa.eu/en/publications-data/long-term-surveillance-strategy-2014-2020>

<sup>194</sup> Joint Action Plan to address Recommendations arising from the second External Evaluation: End-of-term Report; Annual Reports of the Director 2014-2017

<sup>195</sup> In September 2018, ECDC launched a major update of the EWRS system, following a request from the European Commission. The surveillance system reengineering project is now in full swing. Annual Report of the Director 2018

<sup>196</sup> Annual Report of the Director 2016

<sup>197</sup> [Data quality monitoring and surveillance system evaluation - A handbook of methods and applications](#)

<sup>198</sup> Annual report of the Director 2013

<sup>199</sup> EPHESUS: evaluation of EU/EEA surveillance of antimicrobial consumption (ESAC-Net)

<sup>200</sup> It should be noted that ECDC is not directly involved in surveillance activities at subnational level

<sup>201</sup> It should be noted that at the time of submission of the report, within the context of the SSR project, ECDC is developing the Event Threat Management Solution (ETMS). ETMS aims to transform the areas of Epidemic Intelligence and Response activities in ECDC, providing a new tool for detecting and managing events and threats. Significant changes are expected concerning existing processes, data, and technology.

<sup>202</sup> <https://ecdc.europa.eu/en/publications-data/epidemic-intelligence-information-system-epis>

<sup>203</sup> Annual Reports of the Director – data missing for 2014

<sup>204</sup> ECDC ICT Report 2018: Use of IT Products v 1.1

<sup>205</sup> ECDC Rapid Risk Assessments; Hepatitis A outbreaks in the EU/EEA mostly affecting men who have sex with men (2016);

<sup>206</sup> Multi-country outbreak of Salmonella Enteritidis phage type 8, MLVA profile 2-9-7-3-2 and 2-9-6-3-2 infections (2017);

<sup>207</sup> Multi-country outbreak of new Salmonella enterica 11:z41:e,n,z15 infections associated with sesame seeds; Hepatitis A outbreaks in the EU/EEA mostly affecting men who have sex with men (2017); Outbreak of hepatitis A virus infection in four Nordic countries (2013); Multi-country outbreak of Salmonella Enteritidis phage type 8, MLVA profile 2-9-7-3-2 and 2-9-6-3-2 infections (2017);

<sup>208</sup> Joint Action Plan to address Recommendations arising from the second External Evaluation: End-of-term Report; Annual Reports of the Director 2014-2017

<sup>209</sup> Joint Action Plan to address Recommendations arising from the second External Evaluation: End-of-term Report; Annual Reports of the Director 2014-2017

<sup>210</sup> Draft report for the evaluation of the European Food- and Waterborne Disease Surveillance System for campylobacteriosis, listeriosis, non-typhoidal salmonellosis, shigellosis, STEC/VTEC infection, hepatitis A, and yersiniosis (FWD-7)

<sup>211</sup> Draft report for the evaluation of the European Food- and Waterborne Disease Surveillance System for campylobacteriosis, listeriosis, non-typhoidal salmonellosis, shigellosis, STEC/VTEC infection, hepatitis A, and yersiniosis (FWD-7)

<sup>212</sup> Draft report for the evaluation of the European Food- and Waterborne Disease Surveillance System for campylobacteriosis, listeriosis, non-typhoidal salmonellosis, shigellosis, STEC/VTEC infection, hepatitis A, and yersiniosis (FWD-7); ECDC second external evaluation; ECDC ICT Report 2018: Use of IT Products v 1.1

<sup>213</sup> Draft report for the evaluation of the European Food- and Waterborne Disease Surveillance System for campylobacteriosis, listeriosis, non-typhoidal salmonellosis, shigellosis, STEC/VTEC infection, hepatitis A, and yersiniosis (FWD-7);

<sup>214</sup> European Commission paper. Who does what in the area of vaccination

<sup>215</sup> Scientific advice on vaccines that will support policy makers in their decisions regarding the national vaccination schedules. This includes the vaccines against diphtheria/tetanus/poliomyelitis (DPT), influenza, infections with human papillomavirus and rotavirus, pneumococcal disease, tuberculosis (BCG), etc.; Improved vaccine safety through monitoring and managing of adverse events at EU level; Standardised procedures for the detection and reporting of VPD outbreak; Comparable data on disease burden, vaccine coverage, and impact of vaccination from national surveillance systems; Quick reports and risk assessments in emergency situations; Standard training to improve professionalism in the field of VPD in the EU; A regular newsletter that informs about new developments and policies, conferences and workshops, and comments on a selected scientific publications.

<sup>216</sup> See especially SEQ 1.2, SEQ 11.3

<sup>217</sup> <https://ecdc.europa.eu/en/immunisation-and-vaccines/communication-activities/eiw>

<sup>218</sup> <http://venice.cineca.org/index.html>

219 ECDC. General Opportunity and Value Study for VENICE III  
220 <http://www.advance-vaccines.eu/>  
221 [vac4eu.org/wp-content/uploads/2019/02/D77Blueprint.pdf](http://vac4eu.org/wp-content/uploads/2019/02/D77Blueprint.pdf)  
222 The network was started in 2007 with funding from ECDC, and is currently coordinated by EpiConcept at the request and under the leadership of ECDC  
Between 2007 and 2012, the project was funded by ECDC. Since the 2012 the network is funded by partners of the network and various public national  
and international resources. From 2015-16 to present I-MOVE was funded by the countries conducting studies, by ECDC and by WHO-EURO (contributes  
to the funding of one site). Source: Envelop B – Technical proposal. Response to the ECDC Tender Monitoring vaccine effectiveness during seasonal and  
pandemic influenza in EU/EEA. /Publication Reference: OJ/16/07/2014-PROC/2014/024); [https://sites.google.com/site/epiflu/about-i-move/project-  
background](https://sites.google.com/site/epiflu/about-i-move/project-background)  
223 <https://sites.google.com/site/epiflu/about-i-move/project-partners>  
224 <https://sites.google.com/a/epiconcept.fr/pertinent/>  
225 <https://sites.google.com/a/epiconcept.fr/ipd-surveillance/home-2>  
226 THE COUNCIL OF THE EUROPEAN UNION (2018). *COUNCIL RECOMMENDATION of 7 December 2018 on strengthened cooperation against  
vaccine-preventable diseases (2018/C 466/01)*.  
227 <https://ecdc.europa.eu/en/publications-data/ecdc-survey-immunisation-information-systems-eueea>  
228 <https://ecdc.europa.eu/sites/portal/files/documents/immunisation-systems.pdf>  
229 [https://ecdc.europa.eu/sites/portal/files/documents/designing-implementing-immunisation-information-system\\_0.pdf](https://ecdc.europa.eu/sites/portal/files/documents/designing-implementing-immunisation-information-system_0.pdf)  
230 <https://ecdc.europa.eu/en/publications-data/ecdc-vaccine-scheduler>  
231 Annual Report of the Director 2014  
232 The only years for which data is available.  
233 <https://ecdc.europa.eu/en/about-us/who-we-work/disease-and-laboratory-networks>  
234 see e.g. Rapid Risk Assessments ; Plasmid-mediated colistin resistance in Enterobacteriaceae (2016); Carbapenem-resistant Acinetobacter  
baumannii (2016); Carbapenem-resistant Enterobacteriaceae (2016)  
235 Data unavailable for years 2013 and 2017  
236 Nikolayevskyy, V., Hillemann, D., Richter, E., Ahmed, N., van der Werf, M., Kodmon, C., Drobniewski, F. and Ruesch-Gerdes, S. (2016). External  
Quality Assessment for Tuberculosis Diagnosis and Drug Resistance in the European Union: A Five Year Multicentre Implementation Study. PLOS  
ONE, 11(4), p.e0152926.; European Commission (2016). Study on cost-benefit analysis of reference laboratories for human pathogens.  
237 Draft report for the evaluation of the European Food- and Waterborne Disease Surveillance System for campylobacteriosis, listeriosis, non-typhoidal  
salmonellosis, shigellosis, STEC/VTEC infection, hepatitis A, and yersiniosis (FWD-7)  
238 ECDC Management Board minutes (Document number: MB38/Minutes);  
[https://ecdc.europa.eu/sites/portal/files/documents/2016\\_EULabCap\\_EUreport\\_web\\_300418\\_final.pdf](https://ecdc.europa.eu/sites/portal/files/documents/2016_EULabCap_EUreport_web_300418_final.pdf)  
239 [https://ecdc.europa.eu/sites/portal/files/documents/2016\\_EULabCap\\_EUreport\\_web\\_300418\\_final.pdf](https://ecdc.europa.eu/sites/portal/files/documents/2016_EULabCap_EUreport_web_300418_final.pdf)  
240 Annual reports of the Director 2013-2017  
241 ESCAIDE Abstract Books 2013-2017.  
242 ECDC ICT Report on use of IT products  
243 Evaluation of ECDC Fellowship Programme; ECDC Advisory Forum minutes (Document number: AF43/02)  
244 Annual Report of the Director 2017  
245 ECDC Advisory Forum minutes (Document numbers: AF37/Minutes; AF45/02, AF49/Minutes); Draft report for the evaluation of the European Food-  
and Waterborne Disease Surveillance System for campylobacteriosis, listeriosis, non-typhoidal salmonellosis, shigellosis, STEC/VTEC infection,  
hepatitis A, and yersiniosis (FWD-7); ECDC stakeholder survey 2014  
246 Council of the European Union: Council conclusions on vaccinations as an effective tool in public health (2014/C 438/04)  
247 ECDC Management Board minutes (Document number: MB41/05)  
248 Please see Appendix B methodological approach for further detail of focus group  
249 ECDC Management Board minutes (Documents number: MB27; MB29; MB39)  
250 ECDC Management Board minutes (Document number: MB39)  
251 Annual Report of the Director 2017; <https://publications.europa.eu/en/publication-detail/-/publication/672ca40c-560c-48b7-a593-771b36518294>  
252 Advisory Forum meeting minutes (Document number : AF54/Minutes)  
253 ECDC Communication Strategy 2016-2020; ECDC strategic multi-annual programme 2014–2020  
254 ECDC stakeholder surveys 2014 and 2015  
255 Annual reports of the Director 2014-2017  
256 Sante Publique (2016) Les conseils de prudence la tactique anti-tiques. <http://inpes.santepubliquefrance.fr/CFESBases/catalogue/pdf/1797.pdf>  
257 Ministerstvo zdravotnictví (2010) Prevence proti nemocem po přísátí klíšťat [http://www.mzcr.cz/dokumenty/prevence-proti-nemocem-po-prisati-  
klislat\\_4131\\_5.html](http://www.mzcr.cz/dokumenty/prevence-proti-nemocem-po-prisati-klislat_4131_5.html)  
258 Státní zdravotní ústav (2018) Spalnice jsou závažné onemocnění  
[http://www.szu.cz/uploads/Epidemiologie/Spalnice/ECDC\\_poster\\_spalnice\\_SZU\\_EPI.pdf](http://www.szu.cz/uploads/Epidemiologie/Spalnice/ECDC_poster_spalnice_SZU_EPI.pdf)  
259 Centrul Național de Supraveghere și Control al Bolilor Transmisibile (2015) pdf  
Ghid de comunicare pentru creșterea acceptării programelor de vaccinare la copii. [http://www.cnscbt.ro/index.php/ghiduri-si-protocoale/184-ghid-de-  
comunicare-pentru-cresterea-acceptarii-programelor-de-vaccinare-la-copii/file](http://www.cnscbt.ro/index.php/ghiduri-si-protocoale/184-ghid-de-comunicare-pentru-cresterea-acceptarii-programelor-de-vaccinare-la-copii/file)  
260 Ministero della Salute. Parliamo di protezione. Roma 2017; [www.salute.gov.it/imgs/C\\_17\\_opuscoliPoster\\_367\\_allegato.pdf](http://www.salute.gov.it/imgs/C_17_opuscoliPoster_367_allegato.pdf)  
261 Centrul Național de Supraveghere și Control al Bolilor Transmisibile (2015) [http://insp.gov.ro/sites/cnepss/wp-content/uploads/2015/02/Poster-5-  
2016.pdf](http://insp.gov.ro/sites/cnepss/wp-content/uploads/2015/02/Poster-5-2016.pdf)  
262 Narodowy Program Ochrony Antybiotyków <http://antybiotyki.edu.pl/>  
263 ECDC yearly reports on media monitoring 2015-2017  
264 ECDC Communication Strategy 2016-2020  
265 Annual Reports of the Director 2013 - 2017  
266 i.e. visitors that did not explicitly agree with the use of cookies were not tracked.  
851/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 21 April 2004 establishing a European centre for disease prevention and  
control, OJ EU L 142/1  
268 Pending additional data for 2013-2015 from ECDC  
269 Annual reports of the Director 2014-2017 (the only years for which data is available)  
270 Annual reports of the Director 2013-2017  
271 Annual report of the Director 2017  
272 ECDC stakeholder surveys 2014 and 2015  
273 Average taken from Annual Reports of the Director 2014-2016 (years for which data is available)  
274 REGULATION (EC) No 851/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 21 April 2004 establishing a European centre for  
disease prevention and control, OJ EU L 142/1  
275 Annual Report of the Director 2013; ECDC Revised Independence Policy for Non-Staff. (Document number: MB42/04b Rev.1)  
276 ECDC Management Board minutes (Document number: MB38/02)  
277 ECDC (2017). Internal Procedure on handling external and internal requests to produce an output with scientific content. (Document number:  
ECDC/IP/56 — Rev.2)  
278 Annual Report of the Director 2014; Annual Report of the Director 2016

<sup>279</sup> As required by the Independence policy - a formal notification of an individual's interests and is used to identify any interests which may conflict, or may reasonably be perceived by a third party as detrimental to the interests of the European Union, thus adversely affecting an individual's ability to act independently in his/her activities for ECDC

<sup>280</sup> From a total of 440 in 2015 to 1,222 in 2017

<sup>281</sup> [https://www.nichd.nih.gov/sites/default/files/2017-11/Task\\_Force\\_CDC\\_Dissemination.pdf](https://www.nichd.nih.gov/sites/default/files/2017-11/Task_Force_CDC_Dissemination.pdf)

<sup>282</sup> REGULATION (EC) No 851/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 21 April 2004 establishing a European centre for disease prevention and control, OJ EU L 142/1

<sup>283</sup> Minutes of the Forty-third Meeting Stockholm, 19-20 June 2018 (Document number: MB43/13)

<sup>284</sup> Minutes of the Forty-third Meeting Stockholm, 19-20 June 2018 (Document number: MB43/13)

<sup>285</sup> Joint Rapid Outbreak Assessment: Multi-country outbreak of Salmonella Enteritidis infections linked to Polish eggs; Scientific Report of ECDC-EFSA: risks related to household pets in contact with Ebola cases in humans; Rapid Risk Assessment: Seasonal influenza 2012/13 in Europe (EU/EEA countries); Rapid Risk Assessment: Severe respiratory disease associated with Middle East respiratory syndrome coronavirus (MERS-CoV); Rapid Risk Assessment: Invasive meningococcal disease among men who have sex with men; Rapid Risk Assessment: International spread of wild-type poliovirus in 2014 declared a Public Health Emergency of International Concern under the International Health Regulations (IHR); Rapid Risk Assessment: Unusual increase in reported cases of paratyphoid A fever among travellers returning from Cambodia; Rapid Risk Assessment: Outbreak of Ebola virus disease in West Africa; Rapid Risk Assessment: Hepatitis A outbreaks in the EU/EEA mostly affecting men who have sex with men; Rapid Risk Assessment: Outbreak of enterovirus A71 with severe neurological symptoms among children in Catalonia, Spain.

<sup>286</sup> ECDC (2012). *Coordinating Competent Bodies: structures, interactions and terms of reference.*

<sup>287</sup> <https://ecdc.europa.eu/sites/portal/files/documents/28-06-2018-RRA-Klebsiella-pneumoniae-Spain-Sweden-Finland-Norway.pdf>

<sup>288</sup> <https://ecdc.europa.eu/sites/portal/files/documents/operational-tool-rapid-risk-assessment-methodology-ecdc-2019.pdf>

<sup>289</sup> See, e.g. findings under SEQ14.1 and SEQ11.1 concerning the pooling of MS expertise

<sup>290</sup> See, e.g. findings under SEQ4.2 on Rapid Risk Assessments

<sup>291</sup> Despite the existence of an internal procedure: ECDC (2017). Internal Procedure on handling external and internal requests to produce an output with scientific content. (Document number: ECDC/IP/56 — Rev.2)

<sup>292</sup> ECDC Chief Scientist's Annual Report on the work of the Advisory Forum (Document number: MB42/13);

<sup>293</sup> ECDC (2012). *Coordinating Competent Bodies: structures, interactions and terms of reference.*

<sup>294</sup> ECDC Strategic Multi-annual Programme (SMAP) 2014-2020

<sup>295</sup> ECDC Strategic Multi-annual Programme (SMAP) 2014-2020 Mid-term review (Document MB37/08)

<sup>296</sup> see SEQ20.1

<sup>297</sup> See SEQ 4.2 and SEQ 4.3.

<sup>298</sup> REGULATION (EC) No 851/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 21 April 2004 establishing a European centre for disease prevention and control, OJ EU L 142/1

<sup>299</sup> ECDC Advisory Forum minutes (Document number: AF52/Minutes)

<sup>300</sup> ECDC stakeholder surveys 2014 and 2015; Advisory Forum minutes (Document numbers: AF45/02, AF45/02, AF52/Minutes, AF53/Minutes)

<sup>301</sup> ECDC Advisory Forum minutes (Document numbers : AF52/Minutes)

<sup>302</sup> ECDC Advisory Forum minutes (Document numbers : AF52/Minutes; AF53/Minutes; AF53/04; AF54/04); Annual report of the Director 2015

<sup>303</sup> Under the revised process, Advisory Forum members are sent proposals for prioritisation prior to the relevant Advisory Forum meeting, and are requested to evaluate and score the proposals in a three-step approach. First, members score the relevance of the issue addressed in the proposal for European public health using a scale of 1 to 5 points. Secondly, they score the appropriateness of the suggested approach to tackle the issue taking into account resource, impact and solidarity. Finally, members are requested to rank the proposals to support ECDC's priority-setting and decision-making regarding resource allocation (e.g., budget and FTEs) during the work plan execution in the context of need for re-allocation of resources due to unforeseen events such as, Public Health Emergency or else. The scores are anonymously collected using an electronic polling system during the meeting and then serve as the basis for the discussion. Finally, the results of both the opinion polls and the discussion serve for further development and adjustments of the actions proposed in the ECDC Single Programming Documents and serve as a basis for internal resource allocation decisions.

<sup>304</sup> ECDC Advisory Forum minutes (Document numbers : AF54/Minutes); ECDC Advisory Forum: IRIS prioritisation exercise: Principles and process (Document number: AF52/Minutes)

<sup>305</sup> ECDC Advisory Forum minutes (Document number: AF53/04)

<sup>306</sup> The change of timeline for the Centre's overall work planning made it necessary to use IRIS 2015 to inform the Centre's Work Programme 2017, there is therefore no data for the year 2016.

<sup>307</sup> Rand Europe. Protocol for the evaluation of ECDC Disease Programmes

<sup>308</sup> Food and Waterborne Disease (FWD), HIV, Sexually Transmitted Infections and viral Hepatitis (HSH), Influenza and other Respiratory Viruses (IRV) programmes

<sup>309</sup> ECDC Written Procedure (2017). Implementation of ECDC Single Programming Document 2017

<sup>310</sup> ECDC Written Procedure (2017). Implementation of ECDC Single Programming Document 2017; ECDC Management Board comments on ECDC Written Procedure (2017). Implementation of ECDC Single Programming Document 2017

<sup>311</sup> ECDC international relations policy 2014–2020

<sup>312</sup> Specifically, in 2017 126 experts attended 14 technical cooperation events organised by the Centre for EU enlargement countries. In addition, ECDC also provided feedback to Western Balkan countries and Turkey on the extent to which their disease data submissions to TESSy meet the EU/EEA standards at the Regional Seminar on Communicable Disease Surveillance. (source: Annual report of the Director 2017).

<sup>313</sup> ECDC-IPA5 Interim Project Progress report. February 2019.

<sup>314</sup> Specifically; 203 experts were familiarised with ECDC activities, tools, and best practices; A network of National ECDC Correspondents was established in all 15 participating countries; 30 additional contact points on public health issues of common interest were designated; 8 ENP partner countries were integrated into EPIS ELDSNet platform; 7 ENP partner countries were integrated into EPIS FWD platform; 107 experts were trained through 8 training workshops on epidemic intelligence, Rapid Risk Assessment, preparedness, and outbreak investigation; ECDC organised the 1st regional simulation exercise; 3 best practice workshops were organised on vaccine preventable diseases, vector borne diseases, and preparedness. (ECDC document: Implementation of the ECDC-ENPI project. Achievements and lessons learnt (2014-2016).

<sup>315</sup> Presentation "Mediterranean Programme for Intervention Epidemiology Training as an approach to addressing international health risks in the Mediterranean Region" at CORDS 2018 All Networks Conference. Bangkok, Thailand,

<sup>316</sup> European Neighbourhood Policy; the Global Strategy on foreign and security policy for the EU; European Commission: THE THIRD HEALTH PROGRAMME 2014-2020 FUNDING HEALTH INITIATIVES

<sup>317</sup> Article 3 REGULATION (EC) No 851/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 21 April 2004 establishing a European centre for disease prevention and control, OJ EU L 142/1; ECDC international relations policy 2020

<sup>318</sup> European Commission, Health and Food Safety Directorate-General (2016) ECDC mandate and support capacity for EU humanitarian and development policies and operations. Note to Directors General of DG DEVCO and DG ECHO.

<sup>319</sup> The International and Ibero-American Foundation for Administration and Public Policies (FIAPP) and Instituto de Salud Carlos III

<sup>320</sup> ECDC Single Programming Document 2018-2020; ECDC Annual Report of the Director 2015

<sup>321</sup> ECDC Annual Report 2017

<sup>322</sup> European Commission, Directorate-General Humanitarian Aid and Civil Protection (2016) ECDC mandate and support capacity for EU humanitarian and development policies and operations. Note to Director General of DG SANTE.

<sup>323</sup> See SEQ 4.2, SEQ 4.4, SEQ 4.8, SEQ 4.10-11, SEQ 20.1

<sup>324</sup> See SEQ 1.2, SEQ 4.8

325 See EQ 14

326 See EQ 5

327 <https://www.taskforce.org/epi-roadmap>

328 SEE SEQ 20.1

329 See SEQ 4.2, SEQ 4.3,

330 The links provided were functional in May 2019.

331 ECDC Risk Assessment (2017) : Wild-type poliovirus 1 transmission in Israel – what is the risk to the EU/EEA; Scientific Advice: Expert opinion on the introduction of the meningococcal B (4CMenB) vaccine in the EU/EEA; ECDC Technical Report (2016): Case studies on preparedness planning for polio in Poland and Cyprus; Technical Report: Designing and implementing an immunisation information system

332 Ministero dello Salute National Action Plan on Antimicrobial resistance 2017-2020.

333 European Antibiotic Awareness Day Evaluation Questionnaire Reports (2013-2017)

334 Statens Serum Institut, Udbrud af zikavirus; Accessed on 10 May 2019 on <https://www.ssi.dk/aktuelt/sygdomsudbrud/zikavirus>

335 <https://ecdc.europa.eu/en/publications-data/aedes-albopictus-current-known-distribution-europe-april-2017>

336 This was as a result of the indicators being changed in 2014 due to the publication of the strategic multi-annual programme 2014-2020. A dedicated report for indicators in 2013 with such historical trends was published by ECDC and historical trends are being reported on again as of the 2017 Annual Report of the Director 2017

337 ECDC Management Board minutes (Documents number: MB27)

338 ECDC Management Board minutes (Documents number: MB31)

339 See also discussion under EQ 1.4 on the extent to which ECDC's adapted to address changes in national spending.

340 ECDC Meeting Report (2016). Annual Meeting for National Coordinators of the ECDC Coordinating Competent Bodies (CCB)

341 See SEQ 11.4

342 Consulted stakeholders were invited to provide supporting documentary evidence but none was received

343 See e.g. ECDC (2017) Mission Reports from ECDC country visits to Italy, Romania and to discuss antimicrobial resistance issues

344 See SEQ 4.5

345 Presentations from Czech Republic and Slovenia at Annual Meeting for National Coordinators of the ECDC Coordinating Competent Bodies (CCB).

346 The question has been revised from the original formulation of the ToR for the assignment to refer to shortcoming identified under effectiveness (EQs 4-6) as well as EQ 7.

347 Annual Report of the Director 2016

348 ECDC Management Board minutes (Documents number: MB31); ECDC Advisory Forum minutes (Document numbers: AF53/Minutes; AF54/Minutes)

349 For examples of national dissemination of the PPS on long-term care facilities, please refer to EQ 7.2

350 Given the established low level of awareness among stakeholders about the additional activities carried out by ECDC specifically due to Decision 1082/2013, the evaluation matrix has been revised and no longer considers SEQ 10.1 and 10.2 separately. Instead the analysis and indicators under both have been merged under EQ 10, as originally formulated in the ToR.

351 European Court of Auditors (2016) Special Report No.28 Dealing with serious cross-border threats to health in the EU: important steps taken but more needs to be done. ISBN 978-92-872-6122-9

352 ECDC TECHNICAL REPORT - ECDC country preparedness activities 2013–2017

353 Based on a review of the publicly available HSC meeting minutes between 2016-2018

354 'Zika virus and safety of substances of human origin – A guide for preparedness activities in Europe'

355 See Background Paper for the Informal Member State consultation on the WHO Impact Framework, Geneva, 25-26 March, 2019  
[https://www.who.int/docs/default-source/documents/gpw/background-paper-for-the-informal-member-state-consultation-on-the-impact-framework-gpw13.pdf?sfvrsn=353ac055\\_2](https://www.who.int/docs/default-source/documents/gpw/background-paper-for-the-informal-member-state-consultation-on-the-impact-framework-gpw13.pdf?sfvrsn=353ac055_2)

“13th General Programme of Work (GPW13) WHO Impact Framework” White paper [https://www.who.int/about/what-we-do/GPW13\\_WIF\\_White-Paper\\_English.pdf](https://www.who.int/about/what-we-do/GPW13_WIF_White-Paper_English.pdf)

356 See e.g. Beach, D. (2017, January 25). Process-Tracing Methods in Social Science. Oxford Research Encyclopedia of Politics. Ed. Retrieved 9 Apr. 2019

357 See SEQ 4.2 and SEQ 4.3

358 See SEQ 4.2, SEQ 4.3 and SEQ 4.7; ECDC Unit Director's Office – International Relations Section(2016) Evaluation - ECDC Ebola deployment in Guinea  
[https://ec.europa.eu/health/indicators\\_data/indicators\\_en](https://ec.europa.eu/health/indicators_data/indicators_en)  
[https://ec.europa.eu/health/indicators\\_data/echi\\_en](https://ec.europa.eu/health/indicators_data/echi_en)

361 Chen, Zhiyun, and Qiushui He. "Immune persistence after pertussis vaccination." Human vaccines & immunotherapeutics vol. 13,4 (): 744-756. doi:10.1080/21645515.2016.1259780

362 See e.g. ECDC Rapid Risk Assessment: Risk of measles transmission in the EU/EEA 23 March 2018

Eve Dubé, Maryline Vivion & Noni E MacDonald (2015) Vaccine hesitancy, vaccine refusal and the anti-vaccine movement: influence, impact and implications, Expert Review of Vaccines, 14:1, 99-117, DOI: 10.1586/14760584.2015.964212

363 Harbarth, S. et al. (2003), "The Preventable Proportion of Nosocomial Infections: An Overview of Published Reports", Journal of Hospital Infection, Vol. 54, No. 4, pp. 258-266.

364 See SEQ 4.2, SEQ 4.3, SEQ 4.5 and SEQ 4.7

365 See SEQ 4.6 and SEQ 4.7

366 ECDC Strategic Multi-annual Programme (SMAP) 2014-2020

367 European Commission (2017) AMR Action Plan  
[https://ec.europa.eu/health/amr/sites/amr/files/amr\\_action\\_plan\\_2017\\_en.pdf](https://ec.europa.eu/health/amr/sites/amr/files/amr_action_plan_2017_en.pdf)

368 ECDC Communication Strategy 2016-2020; ECDC strategic multi-annual programme 2014–2020

369 See also EQ 7.2 and 9.2 for discussion of the use of the Point Prevalence Surveys

370 <https://ecdc.europa.eu/en/publications-data/epidemic-intelligence-information-system-epis>

371 Although these do not fall within the evaluation timeframe, see e.g. [https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(18\)30605-4/fulltext](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(18)30605-4/fulltext) and <https://ecdc.europa.eu/en/news-events/33000-people-die-every-year-due-infections-antibiotic-resistant-bacteria>

372 <https://antibioticguardian.com/eaad/>

373 European Antibiotic Awareness Day Evaluation Questionnaire Reports (2013-2017)

374 93% of surveyed stakeholders rated it as « helpful » or « very helpful » and 21 countries declared that there was a change in their country that could be attributed to the momentum created by the event in the 2017 evaluation

375 2<sup>nd</sup> External Evaluation of ECDC

376 See also EQ 4.6: ECDC's Communication Toolkit on antibiotic use is reported to have been used in all 31 EU/EEA Member States.

377 ECDC ICT Report 2018: Use of IT Products v 1.1

378 ECDC Yearly Reports of Media Monitoring 2015-2017. The only two years for which there is full data coverage. Figures for 2017 only cover the second semester

379 Examples of useful ECDC outputs included their 'Let's talk about hesitancy' paper (<https://ecdc.europa.eu/en/publications-data/lets-talk-about-hesitancy-enhancing-confidence-vaccination-and-uptake>) and the VENICE network's paper on the variation in adult vaccination policies across Europe (<https://www.sciencedirect.com/science/article/pii/S0264410X12008511?via%3Dihub>)

380 ECDC Yearly Reports of Media Monitoring 2015-2017

381 ECDC Management Board Minutes. Continuation of the Working Group on New Business Models and Financing of Large-scale EU Level Activities. (Document number: MB32/12)  
ECDC strategic multi-annual programme 2014–2020

383 VectorNet is a common database resulting from a joint initiative between ECDC and EFSA, which tracks the presence and distribution of vectors and pathogens in vectors in Europe and the Mediterranean basin <https://ecdc.europa.eu/en/about-us/partnerships-and-networks/disease-and-laboratory-networks/vector-net>

384 Bijkerk, P., Monnier, A., Fanoy, E., Kardamanidis, K., Friesema, I., & Knol, M. (2017). ECDC Round Table Report and ProMed-mail most useful international information sources for the Netherlands Early Warning Committee. *Eurosurveillance*, 22(14). doi: 10.2807/1560-7917.es.2017.22.14.30502

385 <http://www.promedmail.org/>

386 E.g. ECDC (2019) Rapid Risk Assessment: Outbreak of VIM-producing carbapenem-resistant *Pseudomonas aeruginosa* linked to medical tourism to Mexico;  
ECDC (2018) Rapid Risk Assessment: Carbapenemase-producing (OXA-48) *Klebsiella pneumoniae* ST392 in travelers previously hospitalised in Gran Canaria, Spain

387 Institutul National de Sanatate Publica. <https://www.insp.gov.ro/index.php/alerte-de-calatorie>

388 See also discussion under EQ 1.4 on the extent to which ECDC's adapted to address changes in national spending.

389 OECD/EU (2018), Health at a Glance: Europe 2018: State of Health in the EU Cycle, OECD Publishing, Paris/EU, Brussels, [https://doi.org/10.1787/health\\_glance\\_eur-2018-en](https://doi.org/10.1787/health_glance_eur-2018-en).

390 Statlink : <http://dx.doi.org/10.1787/888933834281>

391 see especially SEQ1.2 and SEQ1.3

392 See especially SEQ4.4, SEQ4.7 and SEQ7.2

393 Excluding those who responded "don't know"

394 The evaluators carried out ad hoc search for documentary sources (reports, article) which defined quality criteria for public health organisations but did not identify any suitable indicators against which to assess the Centre as a 'model organisation'.

395 WHO Africa. (2015). *WHO and the African Union Commission are working to establish the African Centre for Disease Control and Prevention in 2015*. Retrieved from <https://afro.who.int/news/who-and-african-union-commission-are-working-establish-african-centre-disease-control-and>  
<https://ecdc.europa.eu/en/news-events/africa-cdc-director-dr-nkengasong-visits-ecdc>

397 DECISION No 2119/98/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 September 1998 setting up a network for the epidemiological surveillance and control of communicable diseases in the Community

398 Diseases preventable by vaccination; Sexually-transmitted diseases; Viral hepatitis; Food-borne diseases; Water-borne diseases and diseases of environmental origin; Nosocomial infections; Other diseases transmissible by non-conventional agents (including Creutzfeldt–Jakob disease (CJD)); Diseases covered by international health regulations (yellow fever, cholera and plague); Other diseases (rabies, typhus, viral haemorrhagic fevers, malaria and any other as yet unclassified serious epidemic disease, etc.).

399 European Commission press release. Strengthening Europe's defences against health threats: Commission proposes European Centre for Disease Prevention and Control. IP/03/1091.; European Commission report (2003). MEASURES UNDERTAKEN BY MEMBER STATES AND ACCESSION COUNTRIES TO CONTROL THE OUTBREAK OF SARS. (Document number: 280503V3).

400 Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL Establishing a European Centre [for Disease Prevention and Control].; Opinion of the European Economic and Social Committee on the 'Proposal for a Regulation of the European Parliament and of the Council establishing a European Centre for Disease Prevention and Control' (COM(2003) 441 final — 2003/0174 (COD)).

401 European Parliament report on the proposal for a European Parliament and Council regulation establishing a European Centre for Disease Prevention and Control (COM(2003) 441 – C5-0400/2003 – 2003/0174(COD)) (Document number: A5-0038/2004).

402 European Commission. 2004. Memorandum on Dedicated Surveillance Networks in the context of the Centre. (Document number: MB1/14)

403 Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL Establishing a European Centre [for Disease Prevention and Control].

404 2549th Council meeting - Employment, Social Policy, Health and Consumer Affairs - Brussels, 1 and 2 December 2003. C/03/354 15443/03 (Presse 354).; Opinion of the European Economic and Social Committee on the 'Proposal for a Regulation of the European Parliament and of the Council establishing a European Centre for Disease Prevention and Control' (COM(2003) 441 final — 2003/0174 (COD)); European Parliament report on the proposal for a European Parliament and Council regulation establishing a European Centre for Disease Prevention and Control (COM(2003) 441 – C5-0400/2003 – 2003/0174(COD)) (Document number: A5-0038/2004).

405 Annual Report of the Director, 2008

406 Ammon, A. (2015). From SARS to Ebola – 10 years of disease prevention and control at ECDC. *Eurosurveillance*, 20(37). doi: 10.2807/1560-7917.es.2015.20.37.30016

407 European Commission report (2003). MEASURES UNDERTAKEN BY MEMBER STATES AND ACCESSION COUNTRIES TO CONTROL THE OUTBREAK OF SARS. (Document number: 280503V3)

408 Zumla, A., Dar, O., Kock, R., Muturi, M., Ntouni, F., & Kaleebu, P. et al. (2016). Taking forward a 'One Health' approach for turning the tide against the Middle East respiratory syndrome coronavirus and other zoonotic pathogens with epidemic potential. *International Journal Of Infectious Diseases*, 47, 5-9. doi: 10.1016/j.ijid.2016.06.012 ; <https://www.who.int/emergencies/zika-virus/articles/one-year-outbreak/en/index4.html>

409 <http://ianphi.org/news/2016/zikameeting.html>

410 It should be noted that documented evidence proving in a counterfactual manner the added value of the Centre in the case of the zika and ebola crises could not be identified.

411 Stehling-Ariza, T., Lefevre, A., Calles, D., Djawe, K., Garfield, R., & Gerber, M. et al. (2017). Establishment of CDC Global Rapid Response Team to Ensure Global Health Security. *Emerging Infectious Diseases*, 23(13). doi: 10.3201/eid2313.170711

412 <http://africacdc.org/resources/continental-commitments/continental-commitments/abuja-declaration-on-hiv-in-english-as-of-25-july-2013/download>

413 Although the case study falls outside of the ex-post evaluation timeframe, for the purposes of the analysis of the Centre's added value, it was considered relevant to include it.

414 Versluis E, van Asselt M, Kim J. The Multilevel Regulation of Complex Policy Problems: Uncertainty and the Swine Flu Pandemic. *European Policy Analysis*. 2019 May;5(1):80-98.

415 Council of Europe report. The handling of the H1N1 pandemic: more transparency needed

416 Although the Centre was established in 2005, we consider an analysis including these accession countries is still pertinent as they were not previously incorporated in the various networks on which the Centre was founded, in contrast to the existing MS at the time.

417 No supporting documentary evidence was received, but was requested.

418 ECDC (2012). *Coordinating Competent Bodies: structures, interactions and terms of reference*.

419 Regulation 851/2004, Art 18(4)

420 European Centre for Disease Prevention and Control. Annual report of the Director, 2015. Stockholm: ECDC; 2016

421 European Centre for Disease Prevention and Control. Rules of Procedure of the ECDC Management Board.

422 European Court of Auditors (2016) Special Report No.28 Dealing with serious cross-border threats to health in the EU: important steps taken but more needs to be done. ISBN 978-92-872-6122-9

423 Epicconcept, Draft Report for the evaluation of the European Legionnaires' Disease Surveillance System, August 2018. Document number: AF54/08

424 Draft report for the evaluation of the European Food- and Waterborne Disease Surveillance System for campylobacteriosis, listeriosis, non-typhoidal salmonellosis, shigellosis, STEC/VTEC infection, hepatitis A, and yersiniosis (FWD-7), August 2018. Document number: AF54/07

425 <http://www.promedmail.org/>  
<https://ecdc.europa.eu/en/publications-data/immunisation-information-systems-useful-tools-monitoring-vaccination-programmes>

427 ECDC Management Board minutes (Document MB40)

428 <https://ecdc.europa.eu/sites/portal/files/documents/ECDC-public-health-microbiology-strategy-2018-2022.pdf>

429 ECDC Management Board minutes (Documents MB40; MB41); ECDC Advisory Forum meeting (Documents AF45/02; AF49/Minutes; AF50/Minutes)

430 ECDC Second Joint Strategic Meeting (Document JSM02/02)

431 ECDC Advisory Forum meeting (Document AF50/Minutes)

432 Annual report of the Director 2015

433 [https://ecdc.europa.eu/sites/portal/files/documents/2016\\_EULabCap\\_EUreport\\_web\\_300418\\_final.pdf](https://ecdc.europa.eu/sites/portal/files/documents/2016_EULabCap_EUreport_web_300418_final.pdf)

434 [https://read.oecd-ilibrary.org/social-issues-migration-health/health-at-a-glance-europe-2018\\_health\\_glance\\_eur-2018-en#page198](https://read.oecd-ilibrary.org/social-issues-migration-health/health-at-a-glance-europe-2018_health_glance_eur-2018-en#page198)

435 <https://ecdc.europa.eu/sites/portal/files/documents/ECDC-public-health-microbiology-strategy-2018-2022.pdf>

436 ECDC Advisory Forum minutes (Document number: AF48/Minutes)

437 ECDC Advisory Forum minutes (Document number: AF39/7)

438 ECDC Second Joint Strategic Meeting (Document JSM02/02); ECDC Advisory Forum minutes (Document number: AF39/7)

439 ECDC Advisory Forum minutes (Document number: AF33/9)

440 <https://ecdc.europa.eu/sites/portal/files/media/en/publications/Publications/molecular-typing-EU-surveillance-epidemic-preparedness-2016-19-roadmap.pdf>

441 <https://www.eurisolmonella.eu/sites/default/files/2018-06/2017%20Valentina%20Rizzi%20-%20Update%20on%20the%20joint%20EFSA%20ECDC%20molecular%20typing%20database%20and%20preliminary%20results%20of%20the%20survey%20on%20the%20use%20of%20WGS%20for%20typing%20Salmonella.pdf>

442 <https://ecdc.europa.eu/en/publications-data/monitoring-use-whole-genome-sequencing-infectious-disease-surveillance-europe>

443 Advisory Forum minutes (Document AF54/Minutes)

444 <http://www.compare-europe.eu/>

445 REGULATION (EC) No 851/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 21 April 2004 establishing a European centre for disease prevention and control, OJ EU L 142/1

446 REGULATION (EC) No 851/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 21 April 2004 establishing a European centre for disease prevention and control, OJ EU L 142/1

447 E.g. ECDC and WHO first published their Joint Annual Surveillance reports on HIV/AIDS and tuberculosis across the EU and the wider European neighbourhood, in 2008. Further, they work together on influenza surveillance and have partnered on numerous trainings and capacity building activities. The two organisations' share an MoU, and their collaboration was reinforced by an Administrative Arrangement creating a framework of technical cooperation, joint activities and coordination, and the establishment of a Joint Coordination Group signed in 2011, the signing of a general principles for collaboration in 2018.

448 ECDC Management Board minutes (Document MB28)

449 ECDC Management Board minutes (Document MB40/Minutes)

450 <https://efsa.onlinelibrary.wiley.com/doi/epdf/10.2903/j.efsa.2017.4872>

451 [https://ecdc.europa.eu/sites/portal/files/media/en/press/Press%20Releases/Joint\\_PR\\_WTBD\\_final.pdf](https://ecdc.europa.eu/sites/portal/files/media/en/press/Press%20Releases/Joint_PR_WTBD_final.pdf)

452 ECDC Management Board minutes (Document MB41/Minutes)

453 <http://www.euro.who.int/en/health-topics/disease-prevention/antimicrobial-resistance/about-amr/central-asian-and-eastern-european-surveillance-of-antimicrobial-resistance-caesar>

454 <https://ecdc.europa.eu/sites/portal/files/documents/Ebola-deployment-Guinea-evaluation.pdf>

455 ECDC Management Board minutes (Document MB35/02)

456 <https://ecdc.europa.eu/sites/portal/files/documents/Ebola-deployment-Guinea-evaluation.pdf>

457 <https://ecdc.europa.eu/en/about-us/partnerships-and-networks/ecdc-partnerships>

458 ECDC Advisory Forum minutes (Document AF45/02)

459 [https://ecdc.europa.eu/sites/portal/files/media/en/publications/Publications/0803\\_COR\\_ECDC\\_Insight.pdf](https://ecdc.europa.eu/sites/portal/files/media/en/publications/Publications/0803_COR_ECDC_Insight.pdf)

460 <https://www.cdc.gov/drugresistance/tatfar/index.html>

461 [https://ec.europa.eu/health/sites/health/files/programme/docs/factsheet\\_healthprogramme2014\\_2020\\_en.pdf](https://ec.europa.eu/health/sites/health/files/programme/docs/factsheet_healthprogramme2014_2020_en.pdf)

462 Annual report of the Director 2016

463 ECDC Management Board minutes (Document MB40/Minutes); ECDC Advisory Forum minutes (Document number: AF53/Minutes)

464 Although the JAV officially commenced in 2018, its set-up began in 2017. We therefore consider it relevant to be included in the analysis of the evaluation.

465 <https://eu-jav.com/the-project/>

466 ECDC Single Programming Document 2017

467 2017 Consensus Report – Health Programme – for Joint Action Grants (HP-JA). (Document reference number: 801495).

468 <https://eu-jav.com/the-project/wp4/>

469 ECDC Single Programming Document 2017

470 Inserm (2018). Launch of the European Joint Action on Vaccination (EU-JAV)

471 A project funded by the EU Public Health programme and coordinated by the Robert Koch-Institut to ensure seamless cooperation with ECDC and the laboratory networks it supports ([https://www.emerge.rki.eu/Emerge/EN/Home/Homepage\\_node.html](https://www.emerge.rki.eu/Emerge/EN/Home/Homepage_node.html)). Annual report of the Director 2017

472 ECDC Management Board minutes (Document MB27/Minutes)

473 ECDC Management Board minutes (Document MB40/Minutes)

474 Annual Reports of the Director 2013-2020

475 ECDC Management Board minutes (Document MB33/Minutes)

476 ECDC Management Board minutes (Document MB27/Minutes)

477 <https://www.eurisolmonella.eu/sites/default/files/2018-06/2017%20Valentina%20Rizzi%20-%20Update%20on%20the%20joint%20EFSA%20ECDC%20molecular%20typing%20database%20and%20preliminary%20results%20of%20the%20survey%20on%20the%20use%20of%20WGS%20for%20typing%20Salmonella.pdf>

478 Annual Report of the Director 2014

479 Annual Report of the Director 2014

480 Rapid Risk Assessment: A case of diphtheria in Spain 2015

481 <https://publications.europa.eu/en/publication-detail/-/publication/672ca40c-560c-48b7-a593-771b36518294>

482 Annual Report of the Director 2017

483 Rapid Risk Assessment: Wound botulism among people who inject heroin in Norway 2013; Rapid Risk Assessment: Wound botulism in people who inject heroin: Norway and the United Kingdom 2015

484 <https://ecdc.europa.eu/en/publications-data/public-health-guidance-active-case-finding-communicable-diseases-prison-settings>

485 Joint ECDC-EFSA-EMA report on consumption of antimicrobials and antimicrobial resistance in animals, food and humans (JIACRA) (2014); ECDC/EFSA/EMA second joint report on the integrated analysis of the consumption of antimicrobial agents and occurrence of antimicrobial resistance in bacteria from humans and food-producing animals (2017); ECDC, EFSA and EMA Joint Scientific Opinion on a list of outcome indicators as regards surveillance of antimicrobial resistance and antimicrobial consumption in humans and food-producing animals (2017).

486 Minutes of the 40<sup>th</sup> meeting of ECDC Management Board

487 <https://ecdc.europa.eu/en/publications-data/public-health-guidance-active-case-finding-communicable-diseases-prison-settings>

488 World Health Organization. One Health. 2019. <http://www.who.int/features/qa/one-health/en/> [accessed January 2019]

<sup>489</sup> ECDC (2019) Towards One Health preparedness. Technical report. <https://ecdc.europa.eu/sites/portal/files/documents/One-Health-preparedness-24-May-2018.pdf>

<sup>490</sup> See also Bajoriniene A, Leitmeyer KC, Struelens MJ, Kokki MH and the Observers and Alternate Observers to the ECDC National Microbiology Focal Points in Western Balkan Countries (2019) Investing in Public Health Microbiology Laboratories in Western Balkan Countries Enhances Health Security From Communicable Disease Threats in Europe. *Front. Public Health* 7:8. doi: 10.3389/fpubh.2019.00008

<sup>491</sup> EPHESUS evaluation report on Legionnaires' disease surveillance for scientific advice, EPHESUS evaluation report on the EU/EEA surveillance of antimicrobial consumption for scientific advice, EPHESUS evaluation report on the EU/EEA surveillance of seven priority food- and waterborne diseases.

<sup>492</sup> <http://www.health-inequalities.eu/about-hi/in-the-eu/>

<sup>493</sup> <https://ecdc.europa.eu/en/health-inequality>

<sup>494</sup> <https://ecdc.europa.eu/sites/portal/files/documents/HIV%20and%20migrants.pdf>

<sup>495</sup> <https://ecdc.europa.eu/sites/portal/files/media/en/publications/Publications/dublin-declaration-people-who-inject-drugs.pdf>

<sup>496</sup> [https://ecdc.europa.eu/sites/portal/files/media/en/publications/Publications/Health\\_inequalities\\_financial\\_crisis.pdf](https://ecdc.europa.eu/sites/portal/files/media/en/publications/Publications/Health_inequalities_financial_crisis.pdf)

<sup>497</sup> ECDC (2018) Unexplored Opportunities: Use of Climate- and Weather-Driven Early Warning Systems to Reduce the Burden of Infectious Diseases

<sup>498</sup> ECDC (2018) Impact of infectious diseases on population health using incidence-based disability-adjusted life years (DALYs): Results from the burden of communicable diseases in Europe study, European Union and European economic countries, 2009 to 2013

<sup>499</sup> Based on analysis of documentation from the Agency Network provided by ECDC

<sup>500</sup> European Parliament. (2018). EU Agencies, Common Approach and Parliamentary Scrutiny - European Implementation Assessment.

<sup>501</sup> ECHA Final Annual Accounts 2013-2017

<sup>502</sup> ECDC Final Annual Accounts 2013-2017

<sup>503</sup> Annual Report of the Director 2017

<sup>504</sup> ECHA Final Annual Accounts 2013-2017

<sup>505</sup> For the year 2013, this was as a result of the pending decision of the Court of Justice concerning the outstanding rappel for salaries in 2011. The EC and ECDC simulated the total budgetary impact of the rappel for 2011 at €3.4 million. Following the negative ruling of the ECJ on the rappel for 2011, the transfers had not been carried out and a total of €3.28 million, strictly foreseen for this purpose, remained unused and/or had to be cancelled at the end of 2013, accounting for the lower budget execution. (Annual Report of the Director 2013; in 2015 this is largely accounted for by a decrease in the weighting factor applied to remunerations of staff. This was exasperated for ECDC due to the impact of the correction coefficient to remunerations due to its location in Stockholm and the fluctuations in the Swedish krona. Finally, the pending appointment, and subsequent vacancy of the Director led to a delay in a number of senior post recruitments.

<sup>506</sup> The impact of the correction coefficient to staff remunerations, exacerbated by fluctuations in the Swedish currency

<sup>507</sup> EFSA Annual Accounts 2013, 2015-2017 (data for year 2014 unavailable)

<sup>508</sup> Annual Report of the Director 2016

<sup>509</sup> At the time of submission of the Interim report, data for actual consumption in 2017 was not available. The data therefore only cover the first four years of the evaluation

<sup>510</sup> Annual Reports of the Director 2015-2017

<sup>511</sup> It should be noted that the overall amount of capital allocated to the cooperation and collaboration unit between 2014-2017 was low, the is low, and the percentage differences for these years therefore do not reflect large sums of money.

<sup>512</sup> E.g. 27.5K were added for "Ranking and prioritising emerging infectious disease risks for preparedness/expert consultation"; the budget for production of case studies and reports on cross border and inter-sectoral preparedness was increased from 20K to 75K (probably as a result of Decision 1082/13); a literature review on preparedness was added for 24K; an annual meeting on preparedness and response was organised for 105K (no amount planned), maybe also due to 1082/13.

<sup>513</sup> For 2014, the EOC and PHE maintenance and equipment upgrade initially planned for 60K consumed 151 K; 10K were transferred for various expenses related to the PHE for Ebola/West Africa (unplanned); the NFP meeting for epidemic intelligence cost was 15K instead of 26K; 27.5K were added for "Ranking and prioritising emerging infectious disease risks for preparedness/expert consultation"; the budget for production of case studies and reports on cross border and inter-sectoral preparedness was increased from 20K to 75K (probably as a result of Decision 1082/13); literature review on preparedness was added for 24K; an annual meeting on preparedness and response was organised for 105K (no amount planned), maybe also due to 1082/13. For 2017, 20K were over-planned for the NFP meeting (68K instead of 88K); a training for the Development and capacity building for Rapid Risk Assessment of public health events for 22,5K EUR did not take place.

<sup>514</sup> The initial budget allocation has now been adjusted in 2019 and 2020, to avoid such correction in the middle of the year.

<sup>515</sup> It should be noted that the overall budget for the activity was between 60K and 136K / year and therefore a high % might not reflect very big amounts.

<sup>516</sup> In 2014, 25K for the development and pilot testing of EU lab directory was not used; the cost for standardisation of antimicrobial susceptibility testing methods and clinical breakpoints for resistance surveillance was 85K instead of 147K as planned; a meeting for "post-pilot molecular surveillance guidance development" was cancelled (20K); the rest were leftovers for meetings and procurements.

In 2015, the meeting on molecular surveillance strategy development was postponed to 2016 (25K); 40K were transferred for the organisation of the Joint Strategy Meeting, in the Director's office as part of the meeting was related to laboratories issues and the JSM meeting had initially no budget; the rest were leftovers for meetings and procurements. In 2016, the two meeting with NFP costed less than anticipated with 20K saved in total; in addition, the meeting on molecular surveillance strategy development was cancelled (25K); In 2017, 40K was added to the meeting on molecular surveillance, as following the developments of a project related to this meeting, there was a need to amend the agenda to add additional issues and invite additional experts on AMR.

<sup>517</sup> In 2013, 60K out of 80K EUR have not been used as the planned, and cooperative events with WHO have not taken place. In 2014, 50K EUR for failed procurements for the cooperation with European Neighbourhood Policy countries (epidemic intelligence training workshop). In 2015, the proposed meeting of the National Focal Points in CDC-s having signed a MoU with ECDC did not take place in 2015 as the whole activity was delayed (7,5K EUR); 9K EUR were envisaged for filling the gap between IPA 3 and IPA 4 and no more needed when IPA 4 was signed; the rest is leftovers from the different actions. In 2016, these are mostly leftovers. In 2017, these are mostly leftovers.

<sup>518</sup> In 2013, 210K EUR were planned for a new publishing platform. A marketing study performed as part of the feasibility study for the Eurosurveillance web3 project indicated that professional publishing platforms are available that could fulfil the journal's technical requirements and cost estimates for these were considerably lower than that for an in-house development, which had been basis for the initial budget planning. After the failed Call for Tender for a publishing platform in September 2013, it has been decided to use available money to fix the longstanding bugs for Eurosurveillance and the money was therefore transferred to ICT. In 2014, the planned implementation of the publishing platform was delayed due to unsuccessful call in 2013. Thus the budget (70K EUR) was transferred to ICT to fix bugs and develop new features for Eurosurveillance using resources procured via the ICT FWC as pooled resources. The procurement will be done by ICT; in addition, the number of participants at the annual board meeting was less than the number budgeted for (23K EUR transferred); the rest are leftovers. In 2015, due to high workload of editorial team (one Editor on family leave for extended period of time), the implementation and maintenance of the publication platform was deprioritized in 2015 and planned to be pursued in 2016. In 2017, the number of participants at the annual board meeting was less than the number budgeted for. Hence the committed amount of € 49K was not needed and € 20K were decommitted (by default ECDC has to plan for the attendance by all members); the rest are leftovers.

<sup>519</sup> In 2014, 396K have been added to the iMove project, (to Increase the budget availability for the project Monitoring vaccine effectiveness during seasonal and pandemic influenza in EU/EEA which will facilitate increase the sample size and the statistical power making it possible to include more study sites), in order to strengthen ECDC's work in the area of monitoring vaccine effectiveness. In 2015, 81K were added to include EQA activities in the larger ERLI-Net lab coordination contract; 45K were added for specific scientific consultant services to supplement expertise available in the Centre; 36K were added as the Annual Influenza Meeting was organized solely by ECDC, as WHO/Europe was unable to host it jointly and ECDC could not share conference costs with WHO, as in previous years; the EU MS requested ECDC to start a working group on RSV surveillance to draft a case definition, develop the objectives, assess how to best meet the objectives, and develop an implementation plan (10K added to set up this working group); 215K were added to the iMove

project (to increase the budget availability for the project "Monitoring vaccine effectiveness during seasonal and pandemic influenza in EU/EEA" (iMove) which will facilitate increase the sample size and the statistical power making it possible to include more study sites), in order to strengthen ECDC's work in the area of monitoring vaccine effectiveness. In 2016, 15K were added for ERLI-Net outsourced implementation of lab support activities; 28K were added for a workshop on "Influenza healthcare workers' vaccination campaigns knowledge sharing" (a consultation with internal ECDC stakeholders and the EISN Coordination Committee resulted in prioritizing this project. The issue was also discussed the meeting of ECDC National Focal Points for Communication in 2015, in which EU Member States agreed on working together and exchange knowledge and experiences between countries); 58K were added for an Expert meeting on enteroviruses and RSV (follow up of 2016); 20K were added to the "Epi Task Group: Strengthen the routine surveillance mechanism for monitoring of severe respiratory disease, risk factors and influenza mortality" (scope of the meeting expanded to include participants from the influenza mortality monitoring network); 441K added to iMove (to increase the budget availability for the project "Monitoring vaccine effectiveness during seasonal and pandemic influenza in EU/EEA" to increase the sample size and the statistical power making it possible to include more study sites), in order to strengthen ECDC's work in the area of monitoring vaccine effectiveness. In 2017, the budget consumed is 100% of the budget.

<sup>520</sup> In 2014, the cost for "Systematic literature review on interventions for tuberculosis prevention and control in hard to reach and vulnerable populations" was reduced from 76K to 47K due to a launch of the call for tender with a lower budget as envisaged; the cost of "Systematic review on effectiveness of interventions to improve initiation, adherence and completion of LTBI treatment" was reduced from 205K to 90K; For "Systematic literature review on interventions for tuberculosis prevention and control in hard to reach and vulnerable populations", 35K out of 90K have been consumed. In 2015, 55K out of 135K were spent on the "Scientific guidance: Assessment of latent TB control as a programmatic intervention - part 3"; country visits did not take place (no invitation received from countries) or the cost for meetings was lower than budgeted; the funds budgeted for World TB Day nor the Official Latvian EU presidency-event, were not used as the support provided did not require any budget; for the high priority countries, the late signature of the framework contract, that took more time than anticipated, resulted in the inability to spend the entire budget that year, so 90K were transferred; 45K planned for a Stakeholder meeting in support of EC work were taken out once we received confirmation from the European Commission that this work would not take place; finally a procurement for "Scientific Advice on Tuberculosis Prevention and Control" was cancelled as no expression of interest was received for the call (53K). In 2016, a scientific guidance (European Standard on Tuberculosis Care) was dependent on the result of the first phase, the evaluation of the ESTC. The evaluation was delayed due to ECDC's procurement processes and ERS' internal approval procedures. A joint decision has been made to postpone the second phase of the project to 2017; (40K); 46K out of 110k were spent on support to high priority countries; the Sub-Network Meeting for Prevention and Control has been put on hold until the recruitment of a new TB Expert was finalized (16K); country visits did not take place (no invitation received from countries) or the cost for meetings was lower than budgeted; In 2017, for the guidance for ETSC 28K out of 50K were transferred as the translation costs were covered under ECDC general communication activities; country visits did not take place (no invitation received from countries) or the cost for meetings was lower than budgeted;

<sup>521</sup> Please note that data for Management and Coordinated country support were excluded due to no or insufficient data

<sup>522</sup> Average taken from Annual Reports of the Director 2014-2016 (years for which data is available)

<sup>523</sup> The spike in revenue for Eurosurveillance in 2016 can be explained due to the additional activities performed as to mark the 20<sup>th</sup> anniversary of the journal, including a scientific seminar

<sup>524</sup> The number of FTEs is based on data reported in the Annual Reports of the Agency. According to Agency staff, unlike the figures for 2013-2016, the figure for 2017 includes overheads (administrative staff that carry out operational work as defined in the benchmarking methodology applied by all agencies) and there were in fact no substantial changes in the number of FTEs working directly on Eurosurveillance compared to the preceding years.

<sup>525</sup> Annual Report of the Director 2016

<sup>526</sup> Please see Appendix B for a description of the limitations of a traditional cost-benefit analysis and an overview of the chosen alternative – a Spend Outcome Model

<sup>527</sup> It should be noted that the public health outcomes discussed are dependent on a broad range of factors, going beyond activities related to public health only at either EU or national level.

<sup>528</sup> Data provided by ECDC

<sup>529</sup> For these two serovars, an additional typing method (usually Multiple-Locus Variable number tandem repeat Analysis – MLVA) is needed before relevant samples can be selected for sending for WGS. Countries without capacity for MLVA cannot select relevant samples. Instead of MLVA, also epidemiological links can be used for sample selection, but these data are usually even less available.

<sup>530</sup> Including an increased number of studies and reports on cross border and inter-sectoral preparedness was increased; a literature review on preparedness; an annual meeting on preparedness and response.

<sup>531</sup> Ipsos MORI Analysis of ECDC's Organisational Performance, January 2018

<sup>532</sup> The ECDC matrix organisation was established in 2010 and resulted in a large reorganisation. The reorganisation aimed at achieving more flexibility in the use of the Centre's resources and its ability to reallocate resources where the need is greatest at short notice. In addition, it aimed to focus the Centre's work on strengthening disease-specific activities after ECDC's initial start-up phase.

<sup>533</sup> Ipsos MORI Analysis of ECDC's Organisational Performance, January 2018

<sup>534</sup> ECDC Single Programming document 2018–2020

<sup>535</sup> Although examples were also identified in the later years of the evaluation, of when there had been adjustments to the budget allocations, based on reviews of consumption patterns in previous years

<sup>536</sup> 2017 Staff Survey

<sup>537</sup> Document MB42/Info Note 1 and MB42/SC

<sup>538</sup> ECDC Single Programming document 2018–2020

<sup>539</sup> Although evidence from the reference period suggests there is room for improving the Centre's deprioritisation mechanism – see SEQ 4.13 and SEQ 21.2)

<sup>540</sup> The key objective of this methodology is preserving value while reducing work by eliminating waste and superfluous processes to reduce production time and costs

<sup>541</sup> Although this rises to 30% when excluding « don't know » responses

<sup>542</sup> Sweden's laws protecting employees (including the Employee Protection Act, the Annual Leave Act, and the Working Hours Act) stipulates a 40-hour standard workweek and places the following caps on the amount of overtime allowable: more 50 hours' overtime over a calendar month is permissible and the absolute maximum overtime is 200 hours per calendar year. <https://www.cloudpay.net/resources/understanding-payroll-in-sweden-what-global-companies-need-to-know-about-sweden-payroll>

<sup>543</sup> Ipsos MORI Analysis of ECDC's Organisational Performance, January 2018

<sup>544</sup> This is subject to the establishment table set for the Centre and has not be possible under the evaluation reference period due to the EC requirement to reduce staff headcount by 5 % by 2018

<sup>545</sup> ECDC second external evaluation

<sup>546</sup> Management Board Minutes (Document MB31)

<sup>547</sup> ECDC Single Programming Document 2017

<sup>548</sup> ECDC 2015 Annual Report of the Director

<sup>549</sup> ECDC 2017 Annual Report of the Director

<sup>550</sup> <https://ecdc.europa.eu/sites/portal/files/documents/MB-Rules-Procedure-Amended-MB42-March-2018.pdf>

[https://ecdc.europa.eu/sites/portal/files/media/en/aboutus/governance/af/Advisory%20Forum%20Decisions/1003\\_Rules\\_of\\_Procedure\\_AF.pdf](https://ecdc.europa.eu/sites/portal/files/media/en/aboutus/governance/af/Advisory%20Forum%20Decisions/1003_Rules_of_Procedure_AF.pdf)

<sup>551</sup> There is no evidence of the MB declining to address an agenda item or question due to lack of mandate.

<sup>552</sup> ECDC Management Board minutes (Document MB44/13)

<sup>553</sup> The possibility for more involvement of the staff has been discussed at MB meetings in 2018.

<sup>554</sup> REGULATION (EC) No 851/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 21 April 2004 establishing a European centre for disease prevention and control, OJ EU L 142/1

<sup>555</sup> <https://ecdc.europa.eu/en/about-ushow-we-are-governed/management-board>

<sup>556</sup> These are meetings which the Management Board Chair may decide to convene outside of the two regular meetings of the Management Board to discuss urgent business essential for the functioning of the Centre. ECDC (2004). European Centre for Disease Prevention and Control Rules of Procedure of the ECDC Management Board.

<sup>557</sup> ECDC Management Board MB Extraordinary 2/Minutes; ECDC Management Board MB Extraordinary 3/Minutes

<sup>558</sup> Neither the Management Board member or alternate was present

<sup>559</sup> European Centre for Disease Prevention and Control. Rules of Procedure of the ECDC Management Board.

<sup>560</sup> REGULATION (EC) No 851/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 21 April 2004 establishing a European centre for disease prevention and control, OJ EU L 142/1

<sup>561</sup> ECDC Management Board minutes (Document MB28)

<sup>562</sup> ECDC Management Board minutes (Document MB38)

<sup>563</sup> ECDC Management Board minutes (Document MB29)

<sup>564</sup> ECDC Management Board minutes (Document MB27)

<sup>565</sup> ECDC Management Board minutes (Document MB38)

<sup>566</sup> REGULATION (EC) No 851/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 21 April 2004 establishing a European centre for disease prevention and control, OJ EU L 142/1; <https://ecdc.europa.eu/en/about-ushow-we-are-governed/advisory-forum>

<sup>567</sup> REGULATION (EC) No 851/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 21 April 2004 establishing a European centre for disease prevention and control, OJ EU L 142/1;

<sup>568</sup> <https://ecdc.europa.eu/en/about-us/governance/advisory-forum/observers>

<sup>569</sup> ECDC Advisory Forum Extraordinary Audio Conference (Document AF44/04)

<sup>570</sup> ECDC Advisory Forum Extraordinary meeting

<sup>571</sup> European Centre for Disease Prevention and Control. Rules of Procedure of the ECDC Advisory Forum

<sup>572</sup> ECDC Advisory Forum meeting (Document AF41/Minutes)

<sup>573</sup> ECDC Advisory Forum meeting (Document AF41/Minutes)

<sup>574</sup> ECDC Advisory Forum meeting (Document AF39/Minutes)

<sup>575</sup> ECDC Advisory Forum meeting (Document AF41/Minutes)

<sup>576</sup> ECDC Advisory Forum meeting (Document AF43/02)

<sup>577</sup> ECDC Advisory Forum meeting (Document AF36/Minutes)

<sup>578</sup> ECDC second external evaluation

<sup>579</sup> ECDC Management Board minutes (Documents MB27/02; MB38/Minutes, MB40/Minutes)

<sup>580</sup> ECDC Management Board minutes (Document MB37/02)

<sup>581</sup> ECDC Management Board: Measures to ensure that the activities of the Management Board and the Advisory Forum are more complementary and synergistic. (Document number: MB41/06)

<sup>582</sup> ECDC Chief Scientist's Annual Report on the work of the Advisory Forum (Document number: MB42/13); ECDC Chief Scientist's Annual Report on the work of the Advisory Forum in 2018 (Document number: MB45/xx)

<sup>583</sup> Draft Minutes of the First meeting of the ECDC Management Board Working Group on Complementarity between the MB and the AF (Document number: MBWGCOMPMB+AF/02); Draft Minutes of the Second meeting of the ECDC Management Board Working Group on Complementarity between the MB and the AF (Document number: MBWGCOMPMB+AF/02); Draft Minutes of the Third Meeting of the ECDC Management Board Working Group on Complementarity between the MB and the AF (Document number: MBWGCOMPMB+AF/02)

<sup>584</sup> DECISION No 1082/2013/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 22 October 2013 on serious cross-border threats to health and repealing Decision No 2119/98/EC; [https://ec.europa.eu/health/preparedness\\_response/risk\\_management/hsc/members\\_de](https://ec.europa.eu/health/preparedness_response/risk_management/hsc/members_de)

<sup>585</sup> European Court of Auditors (2016) Special Report No.28 Dealing with serious cross-border threats to health in the EU: important steps taken but more needs to be done. ISBN 978-92-872-6122-9

<sup>586</sup> Guide for influenza pandemic plan revision — Applying the lessons learned from the pandemic H1N1(2009): A guide for the Member States of the WHO European Region, European Union and European Economic Area, draft of 2014.

<sup>587</sup> European Court of Auditors (2016) Special Report No.28 Dealing with serious cross-border threats to health in the EU: important steps taken but more needs to be done. ISBN 978-92-872-6122-9

<sup>588</sup> The Technical Report is available on [http://www.euro.who.int/\\_data/assets/pdf\\_file/0006/355047/Guide-to-pandemic-preparedness.pdf?ua=1](http://www.euro.who.int/_data/assets/pdf_file/0006/355047/Guide-to-pandemic-preparedness.pdf?ua=1)

<sup>589</sup> ECDC Management Board minutes (Documents MB30; MB31; MB40; MB Extraordinary 2/Minutes)

<sup>590</sup> European Commission (2018) The EU health security framework on serious cross-border health threats. Presentation available at [https://keeljno.gr/wp-content/uploads/2019/01/Antonis\\_Lanaras\\_DG\\_SANTE.pdf](https://keeljno.gr/wp-content/uploads/2019/01/Antonis_Lanaras_DG_SANTE.pdf)

<sup>591</sup> Flash report from the Plenary Meeting of the Health Security Committee on the 7th and 8th of June 2016, Luxembourg

<sup>592</sup> European Centre for Disease Prevention and Control. Annual report of the Director – 2017. Stockholm: ECDC; 2018

<sup>593</sup> European Commission presentation to the ECDC Management Board "Who does what in the area of vaccination"

<sup>594</sup> Some examples include: 'DRAFT REPORT on the implementation of the cross-border Healthcare Directive' (2018), 'DRAFT REPORT on EU options for improving access to medicines' (2016), 'DRAFT REPORT on a European One Health Action Plan against Antimicrobial Resistance (AMR)' (2018),

<sup>595</sup> European Centre for Disease Prevention and Control. Annual report of the Director, 2015. Stockholm: ECDC; 2016

<sup>596</sup> European Centre for Disease Prevention and Control. Annual report of the Director – 2017. Stockholm: ECDC; 2018

<sup>597</sup> ECDC (2012). *Coordinating Competent Bodies: structures, interactions and terms of reference*.

<sup>598</sup> ECDC second external evaluation

<sup>599</sup> ECDC (2012). *Coordinating Competent Bodies: structures, interactions and terms of reference*.

<sup>600</sup> ECDC Management Board minutes (Document MB43/Minutes)

<sup>601</sup> Presentations from Czech Republic and Slovenia at Annual Meeting for National Coordinators of the ECDC Coordinating Competent Bodies (CCB).

<sup>602</sup> An analysis of ECDC internal procedures did not return evidence of such an organigramme for the CCB structure either

<sup>603</sup> Ipsos MORI Analysis of ECDC's Organisational Performance, January 2018

<sup>604</sup> This was as a result of the indicators being changed in 2014 due to the publication of the strategic multi-annual programme 2014-2020. A dedicated report for indicators in 2013 with such historical trends was published by ECDC and historical trends are being reported on again as of the 2017 Annual Report of the Director 2017

<sup>605</sup> The only evaluations from this period identified on ECDC's website are the 2017 evaluation of ECDC Ebola deployment in Guinea and the evaluation of EUPHEM completed in 2013.

<sup>606</sup> Evaluation Cooperation Group (2018) Final Report of the ECG Working Group on Evaluation Recommendations, Management Responses and Feedback Loops. Available on <https://www.ecgnet.org/document/final-report-ecg-working-group-evaluation-recommendations-management-responses-and-feedback>

<sup>607</sup> Ipsos MORI Analysis of ECDC's Organisational Performance, January 2018

<sup>608</sup> EFSA Annual report 2017

<sup>609</sup> World Health Organization. One Health. 2019. <http://www.who.int/features/qa/one-health/en/> [accessed January 2019]

<sup>610</sup> ECDC Management Board minutes 2013 (Document MB27)

<sup>611</sup> <https://www.who.int/hia/about/glos/en/index1.html>

<sup>612</sup> [https://ec.europa.eu/health/sites/health/files/preparedness\\_response/docs/ev\\_20160928\\_flash\\_en.pdf](https://ec.europa.eu/health/sites/health/files/preparedness_response/docs/ev_20160928_flash_en.pdf)

<sup>613</sup> <https://sustainabledevelopment.un.org/sdg3>

# European Centre for Disease Prevention and Control

Third independent external evaluation of the ECDC in  
accordance with its Founding Regulation

September 2019

Final Report

APPENDICES



# Appendices

# Appendix A: Evaluation Matrix

The Table below includes the evaluation matrix. The following legend is used:

- EQ: Evaluation question;
- SEQ: Specific evaluation question ;
- JC: Judgment criteria;
- I: Indicator.

(Specific) evaluation question	Judgement criteria	Indicators	Data source
<b>RELEVANCE</b>			
<b>EQ1: To what extent are the tasks and outputs of the Centre relevant to continue implementing existing obligations under the Treaties, the EU legislative framework, including Decision 1082/2013/EU on serious cross-border threats to health, and other international public health legislation, such as the International Health Regulations (IHR 2005) which the EU and/or its Member States adhere to?</b>			
<b>SEQ1.1</b> To what extent are the tasks and outputs of the Centre relevant to continue implementing existing EU or international legal obligations for the EU and/or its Member States?	<b>JC1.1</b> The tasks and outputs of the Centre relevant to continue implementing existing EU or international legal obligations for the EU and/or its Member States <i>to a high extent</i>	<b>11.1.1</b> Legal obligations on the EU and/or its Member States: <ul style="list-style-type: none"> <li>- European Union law (TFEU, Founding Regulation, Decision 1082/2013)</li> <li>- International public health legislation               <ul style="list-style-type: none"> <li>o International Health Regulations (IHR, 2005)</li> <li>o International Covenant on Economic, Social and Cultural Rights (ICESCR, 1966)</li> </ul> </li> </ul> <b>11.1.2</b> Stakeholder views on the extent to which the tasks and outputs of the centre are relevant for the existing obligations <b>11.1.3</b> Number of interviewed/surveyed stakeholders able to provide examples of relevance	Desk research Interviews – MB, AF, IOs, MS (CCB roles), EUI, NGOs

<b>(Specific) evaluation question</b>	<b>Judgement criteria</b>	<b>Indicators</b>	<b>Data source</b>
		<b>I1.1.4</b> Factors affecting the relevance of ECDC's activities and outputs	
<b>SEQ1.2.</b> To what extent have ECDC's tasks and outputs proved relevant and essential for the needs of EU policies and key political priorities of the Union, such as, but not limited to, antimicrobial resistance, immunisation including vaccine hesitancy migration and contribution to international activities?	<b>JC1.2</b> ECDC's tasks and outputs have proved relevant and essential <i>to a high extent</i> for the needs of EU policies and key political priorities of the Union, such as, but not limited to, antimicrobial resistance, immunisation including vaccine hesitancy migration and contribution to international activities.	<b>I1.2.1</b> Stakeholder views on the relevance of ECDC's tasks and their outputs for the key political priorities of the EU <b>I1.2.3</b> Number of interviewed/surveyed stakeholders able to provide examples of relevance <b>I1.2.4</b> References to ECDC outputs in key EU policy documents and international stakeholders' documents <b>I1.2.5</b> Comparison between IRIS (tool for scoring scientific priorities by the Advisory Forum) and the approved Work Programme <b>I1.2.6</b> Factors affecting the relevance of ECDC's activities and outputs	Desk research Interviews - ECDC, MB, AF, MS (CCB roles), EUI IOs, NGOs Targeted survey (all respondents) Focus groups
<b>SEQ 1.3</b> To what extent have ECDC's tasks and outputs proved relevant to the needs of all key stakeholders in Member States and among other EU institutions or to a certain number of them?	<b>JC1.3</b> ECDC's tasks and output have proved relevant <i>to a high extent</i> to the needs of all key stakeholders in Member States and among other EU institutions or to a certain number of them	<b>I1.3.1</b> Level of participation of individual Member States in different activities of ECDC / use of tools or products, e.g. <b>I1.3.2</b> Stakeholder views on the relevance of ECDC's tasks and outputs for the needs of key stakeholders in Member States and among other EU institutions <b>I1.3.3</b> Number of interviewed/surveyed stakeholders able to provide examples of relevance <b>I1.3.4</b> Factors affecting the relevance of ECDC's activities and outputs for different types of stakeholders	Desk research Interviews - ECDC, MB, AF, MS (CCB roles), EUI, NGOs Targeted survey (all respondents) Country visits Focus groups Public consultation
<b>SEQ 1.4</b> To what extent is ECDC is equipped to adapt to changes in the	<b>JC1.4</b> ECDC is equipped <i>to a high extent</i> to adapt to	<b>I.4.1</b> Procedures in place that allow ECDC to adapt to changes (for example, mechanisms in place to request additional funding, additional resources, etc.)	Desk research Interviews – all stakeholders

<b>(Specific) evaluation question</b>	<b>Judgement criteria</b>	<b>Indicators</b>	<b>Data source</b>
EU policy and in the political and socio-economic situation in the EU?	changes in the EU policy and in the political and socio-economic situation in the EU.	<p><b>I.4.2</b> Human resources (number, % of total resources) that are dedicated to non-essential activities and could be shifted to a new activity if needed</p> <p><b>I.4.3</b> Share of ECDC budget not absorbed at the end of the financial year</p> <p><b>I1.4.4</b> Share of ECDC budget supported from fees</p> <p><b>I1.4.5</b> Extent to which the current level of ECDC activities remains appropriate given changes in the EU policy and in the political and socio-economic situation in the EU (sustainability) [stakeholder assessment, examples of sustainability in relation to concrete changes]</p> <p><b>I1.4.6</b> Extent to which ECDC is equipped to adapt to changes in the EU policy and in the political and socio-economic situation in the EU given access to limited resources [stakeholder assessment, examples]</p> <p><b>I1.4.7</b> Extent to which ECDC is equipped to adapt to changes in the EU policy and in the political and socio-economic situation in the EU given reduced national public spending [stakeholder assessment, examples, comparison of the changes in the ECDC budget to national budgets for public health]</p> <p><b>I1.4.8</b> Extent to which ECDC is equipped to adapt to changes in the EU policy and in the political and socio-economic situation in the EU given new policies in Member States [stakeholder assessment, examples]</p> <p><b>I1.4.9</b> Extent to which ECDC is equipped to adapt to changes in the EU policy and in the political and socio-economic situation in the EU related to political decisions such as Brexit [stakeholder assessment, examples, assessment of the impact of Brexit on the resources of the Agency (financial and non-financial)]</p>	Targeted survey (all respondents) Public consultation Country studies Focus groups
<b>EQ 2: How well adapted is the ECDC to respond to new needs of existing and new stakeholders, given current ECDC expertise and know-how, and its potential to improve public health in the EU?</b>			
<b>SEQ 2.1</b> To what extent is ECDC able to respond	<b>JC2.1</b> ECDC is able to respond <i>to a high</i>	<b>I2.1.1</b> Identified new needs of existing stakeholders for ECDC activities	Desk research

<b>(Specific) evaluation question</b>	<b>Judgement criteria</b>	<b>Indicators</b>	<b>Data source</b>
to new needs of existing and new stakeholders given current ECDC expertise and know-how and its potential to improve public health in the EU	<i>extent</i> to new needs of existing and new stakeholders given current ECDC expertise and know-how and its potential to improve public health in the EU	<b>12.1.2</b> Identified new needs of potential new stakeholders for ECDC activities <b>12.1.3</b> Stakeholder views on the extent to which ECDC's current expertise, know-how and capacity to contribute to improvements in public health in the EU correspond to the new needs of stakeholders <b>12.1.4</b> Identified gaps in the ability of ECDC to address new needs <b>12.1.5</b> Human resources (number, % of total resources) that are dedicated to non-essential activities and could be shifted to a new activity if needed <b>12.1.5</b> Share of ECDC budget not absorbed at the end of the financial year <b>12.1.5</b> Share of ECDC budget supported from fees	Interviews with ECDC, MS, EUI Targeted survey (all respondents) Country studies Focus groups

**EQ 3: Is there a possible need to extend the scope of the Centre's mission to other relevant Community-level activities in the field of public health, as per an assessment according to Article 31 in the Founding Regulation, also taking into account the all-hazards approach in Article 2 of Decision No 1082/2013/EU on serious cross-border threats to health, health determinants, health monitoring, health information, health behaviour and health promotion outlined, and to meet new needs as identified in question 2? To what extent would the tasks, working practices and infrastructure of the Centre facilitate an extension of the mandate?**

<b>(Specific) evaluation question</b>	<b>Judgement criteria</b>	<b>Indicators</b>	<b>Data source</b>
<p><b>SEQ 3.1</b> Is there a need to extend the scope of the Centre's mission in the areas of:</p> <ul style="list-style-type: none"> <li>• serious cross-border threats to health,</li> <li>• health determinants,</li> <li>• health monitoring,</li> <li>• health information,</li> <li>• health behaviour</li> <li>• health promotion</li> </ul>	<p><i>No judgement criterion is defined given the forward-looking aspect of this question</i></p>	<p><b>I3.1.1</b> Documentary evidence of current gaps in EU policy in the area of:</p> <ul style="list-style-type: none"> <li>- serious cross-border threats to health,</li> <li>- health determinants,</li> <li>- health monitoring,</li> <li>- health information,</li> <li>- health behaviour</li> <li>- health promotion</li> </ul> <p><b>I3.1.2</b> Number of interviewed/surveyed stakeholders able to provide examples of the need for ECDC intervention in the above areas</p> <p><b>I3.1.3</b> Number/type of complaints/questions submitted to the EC, EP or ECDC related to these areas</p> <p><b>I3.1.4</b> Stakeholder views on the need to extend the scope of the Centre's mission</p>	<p>Desk research Targeted survey (all respondents) Dedicated survey for stakeholders for the extended mandate Public consultation Interviews – all stakeholders Focus groups</p>
<p><b>SEQ 3.2</b> To what extent would the tasks, working practices and infrastructure of the Centre facilitate an extension of the mandate?</p>	<p><i>No judgement criterion is defined given the forward-looking aspect of this question</i></p>	<p><b>I3.2.1</b> Stakeholder views on how the Centre's current tasks, working practices and infrastructure can facilitate an extension of the mandate of the Centre</p> <p><b>I3.2.2</b> Documentary evidence of the existing links between the current tasks, working practices and infrastructure and the areas for potential extension of the mandate</p>	<p>Desk research Targeted survey (all respondents) Interviews – all stakeholders</p>
<b>EFFECTIVENESS</b>			
<b>EQ 4: To what extent has ECDC been effective in meeting each of its core objectives as required in its Founding Regulation and Decision 1082/2013/EU?</b>			
<p><b>SEQ 4.1</b> To what extent has ECDC integrated the additional work resulting from <b>Decision</b></p>	<p><b>JC 4.1</b> ECDC has integrated to a <i>high extent</i> the additional work resulting from</p>	<p><b>I4.1.1</b> Tasks performed by ECDC as requested by Decision 1082/2013 (expressed in number of tasks, percentage of tasks implemented compared to the number required, etc.)</p> <p><b>I4.1.2</b> Percentage of tasks implemented on time</p>	<p>Desk research Interviews - ECDC, MB, AF, MS (CCB), EUI Country studies</p>

<b>(Specific) evaluation question</b>	<b>Judgement criteria</b>	<b>Indicators</b>	<b>Data source</b>
<p><b>No 1082/2013/EU</b> in its current working methods and deliverables in line with the specified scope and timeframe and how were tasks originally given to the Centre as part of its Founding Regulation were affected?</p>	<p><b>Decision No 1082/2013/EU</b> in its current working methods and deliverables in line with the specified scope and timeframe</p>	<p><b>14.1.3</b> Allocation of resources (human, financial) to tasks/activities of Decision 1082/2013  <b>14.1.4</b> Stakeholder views on the extent to which ECDC has integrated the additional work resulting from Decision No 1082/2013/EU in its current working methods and deliverables</p>	<p>Focus group with key stakeholders in MS</p>
<p><b>SEQ 4.2</b> To what extent does ECDC effectively use its services to <b>respond to current and emerging health threat from communicable diseases?</b></p>	<p><b>JC 4.2</b> ECDC uses its services to effectively <b>respond to current and emerging health threat from communicable diseases</b> to a <i>high extent</i></p>	<p><b>14.2.1</b> Output and outcome level indicators related to the (use of):</p> <ul style="list-style-type: none"> <li>- Daily Round table reports</li> <li>- Rapid Risk Assessments</li> <li>- Early warning systems</li> <li>- EU-wide technical coordination during public health emergencies</li> </ul> <p><b>14.2.3</b> Stakeholder views (and change compared to 2<sup>nd</sup> evaluation) of the degree of effectiveness in enabling EU level response to current and emerging health threat from communicable diseases in the following areas</p> <ul style="list-style-type: none"> <li>- Early detection, filtering and validation of threats</li> <li>- Investigation and assessment of threats</li> <li>- Dissemination of information on threats</li> <li>- Support to risk managers for response</li> <li>- MS's preparedness to manage threats</li> </ul> <p><b>14.2.4</b> Number of interviewed/surveyed stakeholders able to provide examples of contribution of the activities to the objective  <b>14.2.5</b> Factors affecting the effectiveness of the activities  <b>14.2.6</b> Reference to ECDC outputs in HSC meeting</p>	<p>Desk research  Interviews - all  Targeted survey (all respondents)  Open consultation  Country studies  Focus group with key stakeholders in MS</p>
<p><b>SEQ 4.3</b> To what does the Centre effectively provides its services to <b>respond to outbreaks of illnesses of unknown origin?</b></p>	<p><b>JC 4.3</b> The Centre effectively provides its services to <b>respond to outbreaks of illnesses</b> of</p>	<p><b>14.3.1</b> Output level indicators</p> <ul style="list-style-type: none"> <li>- Early warning systems</li> <li>- EU-wide technical coordination during public health emergencies</li> </ul> <p><b>14.3.2</b> Extent to which ECDC's services are effective in enabling EU level response to outbreaks of illnesses of unknown origin</p>	<p>Desk research  Interviews - ECDC, MB, AF, EUI, IOs, NGOs  Targeted survey (all respondents)  Open consultation</p>

<b>(Specific) evaluation question</b>	<b>Judgement criteria</b>	<b>Indicators</b>	<b>Data source</b>
	<b>unknown origin to a high extent.</b>	<b>14.3.3</b> Stakeholder views on the degree of effectiveness of EWRS (and change compared to 2 <sup>nd</sup> evaluation) <b>14.3.4</b> Number of interviewed/surveyed stakeholders able to provide examples of contribution of the activities to the objective <b>14.3.5</b> Factors affecting the effectiveness of the activities	Country studies Focus group
<b>SEQ 4.4</b> To what extent does the Centre <b>provide timely and adequate information</b> to the Commission, Member States, decentralised agencies, international organisations?	<b>JC 4.4</b> The Centre <b>provides timely and adequate information</b> to the Commission, Member States, decentralised agencies, international organisations <i>to a high extent</i> ;	<b>14.4.1</b> Output indicators related to activities on information provisions, specifically: <ul style="list-style-type: none"> <li>- Eurosurveillance</li> <li>- Communicable Disease Threat Report (CDTR)</li> <li>- Annual Threat Report (AER)</li> <li>- Thematic surveillance reports</li> <li>- Epidemiological updates</li> <li>- Response to requests for scientific advice</li> </ul> <b>14.4.2</b> Stakeholder views on the usefulness of opinions , information and evidence-based guidance produced by ECDC in response to information needs <b>14.4.3</b> Stakeholder views on the timeliness of opinions , information and evidence-based guidance produced by ECDC in response to information needs <b>14.4.4</b> Number of interviewed/surveyed stakeholders able to provide examples of the use of the provided information and its outcomes <b>14.4.5</b> Factors affecting the timeliness of information provision <b>14.4.6</b> Factors affecting the quality of information provision	Desk research Interviews - ECDC, MS, EUI, IOs, NGOs Targeted survey (all respondents) Open consultation Country studies Focus groups
<b>SEQ 4.5</b> To what extent has the Centre successfully fulfilled its mandate to <b>collect, validate, analyse and disseminate data</b> at Community level, including on vaccination strategies?	<b>JC 4.5</b> The Centre has successfully fulfilled its mandate to <b>collect, validate, analyse and disseminate data</b> at Community level, including on vaccination strategies	<b>14.5.1</b> Output indicators related to activities for collecting, validating, analysing and disseminating data at community level, <ul style="list-style-type: none"> <li>- TESSy (completeness, timeliness, comparability, usefulness)</li> <li>- EPIS (relevance, comprehensiveness, speed, utility + comparison to 2<sup>nd</sup> evaluation)</li> </ul> <b>14.5.2</b> Number of outputs related to vaccination strategies <b>14.5.3</b> Downloads/use of outputs related to vaccination strategies (e.g. change in average visits of ECDC Vaccine Scheduler) <b>14.5.4</b> Stakeholder views on the effectiveness of data analysis and dissemination activities	Desk research Interviews - ECDC, MS, EUI, IOs, NGOs Targeted survey (all respondents) Open consultation Country studies Focus groups

(Specific) evaluation question	Judgement criteria	Indicators	Data source
		<p><b>14.5.5</b> Number of interviewed/surveyed stakeholders able to provide examples of the results of the data analysis and dissemination activities</p> <p><b>14.5.6</b> Factors affecting the effectiveness of data analysis and dissemination activities</p>	
<p><b>SEQ 4.6</b> To what extent has the Centre contributed to the development of effective dedicated <b>surveillance networks and cooperation</b> between experts and reference laboratories?</p>	<p><b>JC 4.6</b> The Centre has contributed to a <i>high extent</i> to the development of effective dedicated <b>surveillance networks and cooperation</b> between experts and reference laboratories</p>	<p><b>14.6.1</b> Findings &amp; conclusions of the Disease Programme evaluation</p> <p><b>14.6.2</b> Findings &amp; conclusions of the EPHESUS evaluation</p> <p><b>14.6.3</b> Stakeholder views on ECDC's contribution the development of effective dedicated surveillance networks and cooperation between experts and reference laboratories</p>	<p>Desk research</p> <p>Interviews - ECDC, MS, EUI, IOs</p> <p>Targeted survey (all respondents)</p> <p>Public consultation</p>
<p><b>SEQ 4.7</b> To what extent have the Centre's <b>networking, training and technical assistance activities</b> effective in promoting the prevention and/or control of communicable diseases in the EU or at national level?</p>	<p><b>JC 4.7</b> The Centre's <b>networking, training and technical assistance activities</b> have been effective in promoting the prevention and/or control of communicable diseases in the EU or at national level</p>	<p><b>14.7.1</b> Findings &amp; conclusions of:</p> <ul style="list-style-type: none"> <li>- Disease Programme evaluation</li> <li>- Fellowship programme evaluation</li> </ul> <p><b>14.7.2</b> Output indicators related to e-training and other trainings not covered by the DP and FP evaluations, e.g.</p> <ul style="list-style-type: none"> <li>- Number of users of virtual academy portal (incl. change over time)</li> <li>- Number of completed trainings</li> </ul> <p><b>14.7.3</b> Output indicators regarding ESCAIDE conference (attendance, change over time)</p> <p><b>14.7.4</b> Stakeholder views on the effectiveness of networking, training and technical assistance activities to promote prevention and/or control of communicable diseases in the EU or at national level</p> <p><b>14.7.5</b> Number of interviewed/surveyed stakeholders able to provide examples of the effectiveness of networking, training and technical assistance activities</p> <p><b>14.7.6</b> Factors affecting the effectiveness of networking, training and technical assistance activities</p>	<p>Desk research</p> <p>Interviews - ECDC, MS, EUI, IOs, NGOs</p> <p>Targeted survey (all respondents)</p> <p>Open consultation</p> <p>Country studies</p> <p>Focus groups</p>

<b>(Specific) evaluation question</b>	<b>Judgement criteria</b>	<b>Indicators</b>	<b>Data source</b>
<p><b>SEQ 4.8</b> To what extent has the Centre fulfilled its mandate to <b>communicate</b> the results of its work in a rapid, objective, reliable and easy accessible way to all stakeholders and contributed to raising awareness among all of them?</p>	<p><b>JC 4.8</b> The Centre has fulfilled its mandate to <b>communicate</b> the results of its work in a rapid, objective, reliable and easy accessible way to all stakeholders and contributed to raising awareness among all of them</p>	<p><b>14.8.1</b> Output indicators related to communication aspects of the Centres' activities:</p> <ul style="list-style-type: none"> <li>- Usage of the ECDC web portal ((unique) sessions per year, change 2014-2018 compared to annual targets set)</li> <li>- Usage of ECDC social media channels (number of users, re-posting/sharing of ECDC content)</li> </ul> <p><b>14.8.2</b> Social media analytics:</p> <ul style="list-style-type: none"> <li>- Frequency of social media activity over time (2016-2018)</li> <li>- Social media activity demographics (geographical spread, language, gender, age, occupation)</li> <li>- Density of activity per outlet</li> <li>- Top influencers by engagement</li> <li>- Thematic analysis of shared content</li> </ul> <p><b>14.8.2</b> Media coverage (incl. change 2014-2018 and compared to annual growth targets):</p> <ul style="list-style-type: none"> <li>- media coverage of ECDC - articles in (and outside) Europe referencing ECDC and its experts</li> </ul> <p><b>14.8.3</b> Stakeholder views on the level of awareness and use of ECDC work at MS level among:</p> <ul style="list-style-type: none"> <li>- Policy-makers at national level</li> <li>- Policy-makers at regional level</li> <li>- Public health experts</li> <li>- Scientific community</li> <li>- Media and journalists</li> <li>- Lay public</li> </ul> <p><b>14.8.4</b> Change in stakeholder views on the level of awareness and understanding of ECDC work at MS level compared to 2014</p> <p><b>14.8.5</b> Stakeholder views on the extent to which ECDC been successful in attaining its health communication objectives</p> <p><b>14.8.6</b> Number of interviewed/surveyed stakeholders able to provide examples of the effectiveness of communication activities in raising awareness among different groups of stakeholders</p>	<p>Desk research Interviews - ECDC, MS, EUI Targeted survey (all respondents) Open consultation Country studies Focus groups</p>

<b>(Specific) evaluation question</b>	<b>Judgement criteria</b>	<b>Indicators</b>	<b>Data source</b>
		<b>14.8.7</b> Factors affecting the effectiveness of communication activities in raising awareness among different groups of stakeholders	
<b>SEQ 4.9</b> To what extent has the Centre effectively provided its services to respond to ad hoc requests from the European Parliament, the EU Council, the Commission or Member States?	<b>JC 4.9</b> The Centre has effectively provided its services to <b>respond to ad hoc requests</b> from the European Parliament, the EU Council, the Commission or Member States;	<b>14.9.1</b> Output indicators related to the timeliness and quality provision of response to ad-hoc requests, e.g.: <ul style="list-style-type: none"> <li>- Proportion of requested items for scientific advice delivered on time</li> <li>- Proportion of issued opinions and guidance used by ECDC stakeholders</li> </ul> <b>14.9.2</b> Stakeholder views on the timeliness of issued scientific advice in response to ad hoc requests <b>14.9.3</b> Stakeholder views on the quality of issued scientific advice in response to ad hoc requests <b>14.9.4</b> Number of interviewed/surveyed stakeholders able to provide examples of the use of issued scientific advice in response to ad hoc requests <b>14.9.5</b> Factors affecting the timeliness of issued scientific advice in response to ad hoc requests <b>14.9.6</b> Factors affecting the quality of issued scientific advice in response to ad hoc requests	Desk research Interviews - ECDC, MS, EUI Targeted survey (all respondents) Open consultation Country studies Focus groups
<b>SEQ 4.10</b> To what extent has the Centre ensured scientific excellence?	<b>JC 4.10</b> ECDC is ensuring <b>scientific excellence</b>	<b>14.10.1</b> Citation of ECDC outputs in scientific articles, etc., will be agreed upon in the familiarisation phase of the evaluation <b>14.10.2</b> Stakeholder views on the extent to which (selected) ECDC activities and outputs comply with CDC's indicators for demonstrating the impact of science: <ol style="list-style-type: none"> <li>(1) disseminating science,</li> <li>(2) creating awareness,</li> <li>(3) catalysing action,</li> <li>(4) effecting change and</li> <li>(5) shaping the future</li> </ol> <b>14.10.3</b> Number of interviewed/surveyed stakeholders able to provide examples of the scientific excellence of ECDC's activities and outputs <b>14.10.4</b> Factors affecting the scientific excellence of ECDC's activities and outputs	Desk research Interviews - ECDC, MS, EUI, IOs, NGOs Targeted survey (all respondents) Open consultation Country studies Focus group with key stakeholders in MS

<b>(Specific) evaluation question</b>	<b>Judgement criteria</b>	<b>Indicators</b>	<b>Data source</b>
<p><b>SEQ 4.11</b> To what extent has the Centre used the expertise available to ECDC from the Member States and in existing dedicated surveillance networks to deliver relevant and high quality outputs such as scientific advice and rapid risk assessments for the different stakeholders</p>	<p><b>JC 4.11 ECDC has used the expertise available to ECDC from the Member States and in existing dedicated surveillance networks</b> to deliver relevant and high quality outputs such as scientific advice and rapid risk assessments for the different stakeholders</p>	<p><b>I4.11.1</b> Number of interviewed/surveyed stakeholders able to provide examples of the use of Member State expertise in the production of scientific advice and rapid risk assessment  <b>I4.11.2</b> Number of interviewed/surveyed stakeholders able to provide examples of the use of the expertise of the dedicated surveillance networks in the production of scientific advice and rapid risk assessment  <b>I4.11.3</b> Stakeholder views on the extent to which ECDC has used the available expertise from the MS and the surveillance networks  <b>I4.11.3</b> Findings of the evaluation of the Disease Programmes</p>	<p>Desk research Interviews – ECDC, MS, AF</p>
<p><b>SEQ 4.12</b> To what extent has the implementation of multi-annual work programme for 2013-2017 been accomplished and contributed to meet the core objectives?</p>	<p><b>JC 4.12</b> The implementation of multi-annual work programme for 2013-2017 has been accomplished and has contributed to meet the core objectives</p>	<p><b>I4.12.1</b> Degree of implementation of the multi-annual work programme  <b>I4.12.2</b> Indicators of the contribution effect (<i>taking account of the monitoring indicators specified in the Multi-annual programme and SPD</i>)  <b>I4.12.4</b> Factors affecting the implementation of the multi-annual work programme</p>	<p>Desk research Interviews - ECDC, MS, EUI</p>
<p><b>SEQ 4.13</b> To what extent do the existing prioritisation and deprioritisation mechanisms allow for the selection of the most relevant priorities for the Member States, the European Commission and the European Parliament?</p>	<p><b>JC 4.13</b> The existing prioritisation and deprioritisation mechanisms allow for the selection of the most relevant priorities for the Member States, the European Commission and the European Parliament</p>	<p><b>I4.13.1</b> Proportion of prioritised scientific topics executed  <b>I4.13.2</b> Output indicators for the effectiveness of the Country Support Strategy (pilots)  <b>I4.13.3</b> Findings of the DP evaluation related to the effectiveness of the prioritisation and deprioritisation mechanisms  <b>I4.13.4</b> Stakeholder views on the extent to which prioritisation and deprioritisation mechanisms allows for the selection of the most relevant priorities for the Member States, the European Commission and the European Parliament  <b>I4.13.5</b> Factors affecting effectiveness of the prioritisation and deprioritisation mechanisms</p>	<p>Desk research Interviews - ECDC, MB, AF, MS, EUI Targeted survey (all respondents) Focus groups</p>

(Specific) evaluation question	Judgement criteria	Indicators	Data source
<b>EQ 5: To what extent have EU grants received by ECDC to carry out specific activities to support non-EU/non-EEA countries affected the implementation by the Centre of its core objectives? To what extent the current governance and resourcing arrangements of the Centre are appropriate for effective decision-making and oversight. Is there room for improvement?</b>			
<b>SEQ 5.1</b> To what extent have EU grants received by ECDC to carry out specific activities to support non-EU/non-EEA countries affected the implementation by the Centre of its core objectives?	<b>JC 5.1</b> EU grants received by ECDC to carry out specific activities to support non-EU/non-EEA countries affected <i>negatively</i> the implementation by the Centre of its core objectives <i>to a low extent</i>	<p><b>15.1.1</b> Resource allocations to implement grant-based activities to non-EU/non-EEA countries</p> <p><b>15.1.2</b> Number of interviewed/surveyed stakeholders able to provide examples of positive/negative consequences of the implementation of grant-based activities to support non-EU/non-EEA countries on the Centre's core objectives</p> <p><b>15.1.2</b> Stakeholder views on the positive/negative consequences of the implementation of grant-based activities to support non-EU/non-EEA countries on the Centre's core objectives</p>	Desk research Interviews - ECDC, MB, AF, EUI Other (non-EU/EEA countries)
<b>SEQ 5.2</b> To what extent are the current governance and resourcing arrangements of the Centre appropriate for effective decision-making and oversight? Is there room for improvement?	<b>JC 5.2</b> The current governance and resourcing arrangements of the Centre are appropriate for effective decision-making and oversight <i>to a high extent</i>	<p><b>15.2.1</b> Evidence of the presence and application of governance and resourcing arrangements in place for grant-funded activities</p> <p><b>15.2.2</b> Stakeholder views on the extent to which the of governance and resourcing arrangements in place for grant-funded activities are appropriate for decision making and oversight</p> <p><b>15.2.3</b> Identified areas for improvement</p>	Desk research Interviews – ECDC, MB
<b>EQ 6: What factors influenced what was achieved or not achieved?</b>			
<b>SEQ 6.1</b> What factors influenced what was achieved or not achieved?	<i>The question is exploratory rather than normative so no judgement criterion is defined.</i>	<p><b>16.1.1</b> Stakeholder views on the influence of:</p> <ul style="list-style-type: none"> <li>- the scientific quality of the work of the Centre,</li> <li>- management,</li> <li>- human and financial resources allocation,</li> <li>- coordination,</li> <li>- proximity to stakeholders,</li> </ul>	Desk research Interviews – (all stakeholders)

(Specific) evaluation question	Judgement criteria	Indicators	Data source
		<ul style="list-style-type: none"> <li>- the split of responsibilities of the Member States, the European Commission, the EU Agencies, international organisations,</li> <li>- the trust that stakeholders put in ECDC work</li> <li>- other factors identified under SEQ 4.1-4.13</li> </ul> <p><b>16.1.2</b> Number of interviewed stakeholders able to provide examples of the influence of each factor</p> <p><b>16.1.3</b> Documentary evidence of the influence of factors</p>	
<b>IMPACT</b>			
<b>EQ 7: Which factors contributed and which factors impeded the Centre to have a significant impact to enhance the capacity of the Community and various stakeholders (Member States, scientific community, etc.) to identify, assess and communicate current and emerging threats to human health?</b>			
<p><b>SEQ 7.1</b> Which factors contributed and which factors impeded the Centre to have a significant impact to enhance the capacity of the Community and various stakeholders (Member States, scientific community, etc.) to identify, assess and communicate current and emerging threats to human health?</p>	<p><i>The question is exploratory rather than normative so no judgement criterion is defined.</i></p>	<p><b>17.1.1</b> Assessment of effectiveness under SEQ 4.1-4.13</p> <p><b>17.1.2</b> Stakeholder views on the factors that affected the centre's ability to have a significant impact</p> <p><b>17.1.3</b> Documentary evidence of the factors affecting the Centre's contribution to the capacity of the Community and various stakeholders to identify, assess and communicate current and emerging threats to human health</p>	<p>Desk research Interviews – (all stakeholders)</p>
<p><b>SEQ 7.2</b> To what extent have surveys and studies funded by ECDC improved MS capacities</p>	<p><b>JC 7.2</b> Surveys and studies funded by ECDC have improved Member</p>	<p><b>17.2.1</b> Output (numbers produced, timeliness) and outcome indicators (use at MS level) related to a selection of studies</p> <p><b>17.2.2</b> Stakeholder views on the impact of a selection of studies on Member States' capacities</p>	<p>Desk research Targeted survey – AF, MS – MB, CCBs, NFPs, OCPs</p>

<b>(Specific) evaluation question</b>	<b>Judgement criteria</b>	<b>Indicators</b>	<b>Data source</b>
to strengthen surveillance, prevention and control of communicable diseases (in particular, studies on vaccine effectiveness, AMR, vector-borne diseases)?	States' capacities to strengthen surveillance, and prevention and control of communicable diseases (in particular, studies on vaccine effectiveness, AMR, vector-borne diseases)	<p><b>17.2.3</b> Number of interviewed/surveyed stakeholders able to provide examples of the impact of studies</p> <p><b>17.2.4</b> Output (numbers produced, timeliness) and outcome indicators (use at MS level) related to a selection of surveys</p> <p><b>17.2.5</b> Stakeholder views on the impact of a selection of surveys on Member States' capacities</p> <p><b>17.2.6</b> Number of interviewed/surveyed stakeholders able to provide examples of the impact of surveys</p>	<p>Interviews – MB, AF, MS Desk research (CCB roles), EUI, IO, Other</p> <p>Public consultation</p> <p>Country studies</p>
<b>SEQ 7.3</b> To what extent have the mechanisms and resources available for monitoring, reporting and evaluation of the Centre's activities ensured adequate accountability and assessment of performance and impact?	<b>JC 7.3</b> The mechanisms and resources available for monitoring, reporting and evaluation of the Centre's activities ensured adequate accountability and assessment of performance and impact	<i>Indicators under EQ 23<sup>1</sup></i>	
<b>SEQ 7.4</b> To what extent has contributing to the activities of the Centre caused MS to divert resources (time, financial, people) to carry out this work, which could have	<b>JC 7.4</b> Contributing to the activities of the Centre has caused Member States to divert resources (time, financial, people) to a low	<p><b>17.4.1</b> Stakeholder views (and change compared to 2<sup>nd</sup> evaluation survey results) on the extent to which the burden (workload) imposed by ECDC tasks is offset by the added-value of ECDC activities</p> <p><b>17.4.2</b> Number of interviewed stakeholders able to provide examples of cases where resources were diverted to the detriment of other activities/ objectives of the Member States which could have produced a greater benefit</p>	<p>Desk research</p> <p>Interviews – AF, MB, MS (CCB roles)</p>

<sup>1</sup> This judgement criterion will be addressed under the analysis of efficiency in order to maintain a consistent interpretation of the evaluation criteria and avoid overlaps.

<b>(Specific) evaluation question</b>	<b>Judgement criteria</b>	<b>Indicators</b>	<b>Data source</b>
produced a greater benefit if they had been used to support other activities/ objectives of the Member States. Are these marginal costs offset by any indirect gain from other activities of the Centre?	<i>extent or to an extent that had been offset by indirect gains from other activities of the Centre</i>	<b>17.4.3</b> Documentary evidence of resources spent by Member States on contributing to ECDC activities	
<b>EQ 8: How could shortcoming identified in question 7 be addressed?</b>			
<b>SEQ 8.1</b> How could shortcoming identified in question 7 be addressed?	<i>The question is exploratory rather than normative so no judgement criterion is defined.</i>	<i>This question will be addressed by way of reference to evidence collected under EQ 4-7 and through testing of different possible responses to the identified needs through the full range of data collection activities.</i>	Desk research Interviews – (all stakeholders) Targeted survey Public consultation Country studies Focus group
<b>UTILITY</b>			
<b>EQ 9: To what extent have the Centre’s stakeholders used the outputs of ECDC?</b>			
<b>SEQ 9.1</b> What activities and outputs are considered the most useful by stakeholders, partners and users?	<i>No judgement criterion is set since the question is not normative</i>	<b>19.1.1</b> Relative extent of use of different ECDC activities and outputs by stakeholders, partners and users (e.g. methods and standards to improve data collection, missions, scientific opinions, tools and guidance, training programmes, technical support, conferences organised by ECDC, in particular ESCAIDE and Disease Programme meetings) <b>19.1.2</b> Output indicators used under EQ 4, indicators of usefulness from the evaluation of the Disease Programmes, and other relevant indicators <b>19.1.3</b> Factors that have hindered the use of different ECDC activities and outputs or would improve their use.	Desk research Interviews - MB, AF, MS (CCB), EUI, IOs, NGOs, Other Targeted survey (all respondents) Open consultation Country studies Focus group

<b>(Specific) evaluation question</b>	<b>Judgement criteria</b>	<b>Indicators</b>	<b>Data source</b>
<p><b>SEQ 9.2</b> To what extent have ECDC outputs improved the level and quality of information at Member State and EU level, and are translated at the national level into effective public health policy and practice?</p>	<p><b>JC 9.2</b> ECDC outputs improved the level and quality of information at Member State and EU level, and are translated at the national level into effective public health policy and practice</p>	<p><b>19.2.1</b> Outcome indicators used under EQ 4, indicators of usefulness from the evaluation of the Disease Programmes, and other relevant indicators</p> <p><b>19.2.2</b> Stakeholder reports on the extent to which a sample of publication outputs from 2013-2017 has been used at national level in terms of:</p> <ul style="list-style-type: none"> <li>• Decision taken on the basis of the information in the publication</li> <li>• Recommendation based on information in the publication</li> <li>• Publication shared / posted locally</li> <li>• Advice in the publication translated to a national language</li> </ul> <p><b>19.2.2</b> Stakeholder views on the extent to which ECDC outputs improved the level and quality of information at Member State and EU level</p> <p><b>19.2.3</b> Stakeholder views on the extent to which ECDC outputs are translated at the national level into effective public health policy and practice</p> <p><b>19.2.4</b> Number of interviewed/surveyed stakeholders able to provide examples of outputs translated at the national level into effective public health policy and practice</p>	<p>Desk research Interviews - MB, AF, MS, EUI, NGOs Targeted survey – MB, AF, MS Country studies Focus groups Open consultation</p>
<p><b>EQ 10: Decision No 1082/2013/EU has resulted in additional work for ECDC in the area of preparedness. To which extent are stakeholders aware of this additional work, consider it useful, and benefit from it, particularly in the context of analysing preparedness and response planning, communication, and reporting to the Health Security Committee to coordinate the risk management measures?</b></p>			
<p><b>SEQ 10.1</b> To what extent are stakeholders aware of the additional work done by ECDC due to Decision No 1082/2013/EU?</p>	<p><b>JC 10.1</b> Stakeholders are aware to a high extent of the additional work done by ECDC due to Decision No 1082/2013/EU</p>	<p><b>110.1.1</b> Proportion of consulted stakeholders who are aware of the additional work done by ECDC due to Decision No 1082/2013/EU</p>	<p>Desk research Interviews - MB, AF, MS, EUI, IO, NGOs, Other</p>
<p><b>SEQ 10.2</b> To what extent do the stakeholder consider the</p>	<p><b>JC 10.2</b> Stakeholders consider to a high</p>	<p><b>110.2.1</b> Proportion of ECDC tasks under Decision No 1082/2013 which relates to areas or with cross-sectoral partners which are not directly falling under the mandate of ECDC</p>	<p>Desk research Interviews - MB, AF, MS, EUI, IO, NGOs, Other</p>

<b>(Specific) evaluation question</b>	<b>Judgement criteria</b>	<b>Indicators</b>	<b>Data source</b>
<p>additional work useful and benefit from it, particularly in the context of analysing preparedness and response planning, communication, and reporting to the Health Security Committee to coordinate the risk management measures?</p>	<p><i>extent</i> that the additional work done by ECDC due to Decision No 1082/2013/EU has been useful, and benefit from it, particularly in the context of analysing preparedness and response planning, communication, and reporting to the Health Security Committee to coordinate the risk management measures</p>	<p><b>I10.2.2</b> Stakeholder views on the usefulness and benefits of ECDC's work under Decision No 1082/2013/EU  <b>I10.2.3</b> Number of interviewed/surveyed stakeholders able to provide examples of the usefulness and benefits of ECDC's work under Decision No 1082/2013/EU  <b>I4.10.4</b> Factors affecting the usefulness and benefits of ECDC's work under Decision No 1082/2013/EU</p>	<p>Open consultation  Country studies  Focus group</p>
<b>ADDED VALUE</b>			
<b>EQ 11: What has ECDC achieved that could not have been achieved by the Member States themselves, the European Commission, the European Parliament or international organisations?</b>			
<p><b>SEQ 11.1</b> To what extent has ECDC provided added value in <b>enhancing the health security for EU citizens</b> from potential cross-border threats to health?</p>	<p><b>JC11.1</b> ECDC has provided added value <i>to a high extent</i> in enhancing the health security for EU citizens from potential cross-border threats to health to a high extent</p>	<p><b>I11.1.1</b> Documentary evidence on the added value of ECDC in enhancing the health security for EU citizens from potential cross-border threats to health – based on comparison of achievements to expectations set out in the Impact Assessment for Decision 1082/2013  <b>I11.1.2</b> Number of interviewed/surveyed stakeholders able to provide examples of the added value of ECDC in enhancing the health security for EU citizens from potential cross-border threats to health compared to alternative scenarios  <b>I11.1.3</b> Stakeholder views on the extent to which in the absence of ECDC it would be possible to have the same EU-wide level of health security for EU citizens</p>	<p>Desk research  Targeted survey (all respondents)  Open consultation  Interviews – MB, AF, MS, EUI, IOs, NGOs, Other</p>

(Specific) evaluation question	Judgement criteria	Indicators	Data source
		<b>I11.1.4</b> Factors affecting the added value of ECDC	
<b>SEQ 11.2</b> To what extent has ECDC provided added value by producing outputs that improved the ability of Member States to <b>control communicable diseases</b> ?	<b>JC11.2</b> ECDC has provided added value <i>to a high extent</i> by producing outputs that improved the ability of Member States to control communicable diseases	<b>I11.2.1</b> Stakeholder views on the extent to which in the absence of ECDC it would be possible to have the same EU-wide level of ability of Member States to control communicable diseases <b>I11.2.2</b> Number of interviewed/surveyed stakeholders able to provide examples of the added value of ECDC in improving the ability of Member States to control communicable diseases <b>I11.2.3</b> Factors affecting the added value of ECDC <b>I11.2.4</b> Findings of the DP Evaluation and EPHESUS Evaluation related to ECDC’s contribution to Member States’ ability to control communicable diseases	Desk research Targeted survey (all respondents) Open consultation Interviews – MB, AF, MS, EUI, IOs, NGOs, Other
<b>SEQ 11.3</b> To what extent has ECDC provided added value by improving <b>awareness of antimicrobial resistance, vaccination, vector borne diseases in particular</b> ?	<b>JC11.3</b> ECDC has provided added value <i>to a high extent</i> by improving awareness of antimicrobial resistance, vaccination, vector borne diseases in particular	<b>I11.3.1</b> Output indicators: <ul style="list-style-type: none"> <li>- website sessions / downloads related to content on antimicrobial resistance, vaccination, and vector borne diseases</li> <li>- participants in European Antibiotic Awareness Day</li> </ul> <b>I11.3.2</b> Media coverage of European Antibiotic Awareness Day <b>I11.3.3</b> Citation counts of selected outputs of ECDC (bibliometric data) <b>I11.3.3</b> Stakeholder views on the effectiveness (timeliness and usefulness) of ECDC communication outputs in the area of: <ul style="list-style-type: none"> <li>- antimicrobial resistance</li> <li>- vaccination</li> <li>- vector borne diseases</li> </ul> <b>I11.3.4</b> Share of countries in which ECDC outputs are reported (via survey/interviews, field visits) to have been used to communicate and raise awareness of <ul style="list-style-type: none"> <li>- antimicrobial resistance</li> <li>- vaccination</li> </ul>	Desk research Targeted survey (all respondents) Open consultation Interviews – MB, AF, MS, EUI, IOs, NGOs, Other

<b>(Specific) evaluation question</b>	<b>Judgement criteria</b>	<b>Indicators</b>	<b>Data source</b>
		- vector borne diseases	
<b>SEQ 11.4</b> To what extent has ECDC provided added value by achieving <b>lower costs</b> due to its intervention?	<b>JC11.4</b> Impacts were achieved at lower costs because of the Centre's intervention to a high extent	<b>I11.4.1</b> Stakeholder views on the extent to which in the absence of ECDC it would be possible to have the same EU-wide level spending on public health <b>I11.4.2</b> Number of interviewed/surveyed stakeholders able to provide examples of the added value of ECDC in achieving lower costs due to its intervention <b>I11.4.3</b> Factors affecting the added value of ECDC	Desk research Targeted survey (all respondents) Open consultation Interviews – MB, AF, MS, EUI, IOs, NGOs
<b>SEQ 11.5</b> To what extent has ECDC, through its outputs and results provided added value in the allowing (enabling) Member States to <b>improve health across the EU</b> , as reflected in available indicators?	<b>JC11.5</b> ECDC has to a <i>high extent</i> allowed (enabled) Member States, to improve health across the EU, as reflected in available indicators, through its outputs and results	<b>I11.5.1</b> European Core Health Indicators (ECHI) related to communicable diseases (change 2013-2017) <b>I11.5.2</b> Results of ECDC activities that demonstrate positive contribution to public health improvement (via Member States' use of ECDC outputs) <b>I11.5.3</b> Stakeholder views on the extent to which ECDC has provided added value in allowing (enabling) Member States to improve health across the EU <b>I11.5.4</b> Factors affecting the added value of ECDC	Desk research Interviews – MB, AF, MS, EUI, IOs, NGOs, Others
<b>SEQ 11.6</b> To what extent have ECDC's outputs been used by <b>policy makers</b> across the EU?	<b>JC 11.6</b> Policy makers across the EU have used ECDC's outputs to a <i>high extent</i>	<b>I11.6.1</b> Documentary evidence of the use of ECDC products in policy decisions (based on survey respondents' links to/uploads of documents demonstrating the use of ECDC sources) <b>I11.6.1</b> Stakeholder views on the extent of use of ECDC products in policy decisions <b>I11.5.4</b> Factors affecting the use of ECDC products in policy decisions	Desk research Interviews - ECDC, MB, AF, MS, EUI Targeted survey (all respondents) Open consultation Country studies Focus group
<b>EQ 12: What factors contributed/ hindered ECDC to provide added value at EU level?</b>			

<b>(Specific) evaluation question</b>	<b>Judgement criteria</b>	<b>Indicators</b>	<b>Data source</b>
<b>SEQ 12.1</b> What factors contributed/ hindered ECDC to provide added value at EU level?	<i>No judgement criterion is set since the question is not normative</i>	<b>I12.1.1</b> Factors identified by stakeholders <b>I12.1.2</b> Stakeholder views on the degree of influence of identified factors <b>I12.1.3</b> Documentary evidence of the influence of the identified factors	Desk research Interviews - (all stakeholders) Country studies Focus group
<b>EQ 13: To which extent is the ECDC considered by the European Commission, the Member and international partners as a model organisation for the coordination and surveillance, alert and preparedness with its constituencies? What factors contribute to this?</b>			
<b>SEQ 13.1</b> To which extent is the ECDC considered by the European Commission, the Member and international partners as a model organisation for the coordination and surveillance, alert and preparedness with its constituencies? What factors contribute to this?	<b>JC 13.1</b> ECDC is considered by the European Commission, the Member and international partners as a model organisation for the coordination and surveillance, alert and preparedness with its constituencies <i>to a high extent</i>	<b>I13.1.1</b> Stakeholder views on the extent to which ECDC is a model organisation for the coordination and surveillance, alert and preparedness with its constituencies <b>I13.1.2</b> Number of interviewed/surveyed stakeholders able to provide examples of the high standards set by ECDC as an organisation <b>I13.1.3</b> Factors affecting ECDC's ability to be a model organisation for the coordination and surveillance, alert and preparedness with its constituencies <b>I13.1.4</b> Documentary evidence of reference to ECDC work as representing a best practice, high standard, etc.	Desk research Interviews – MS, EUI, IOs, NGOs, Other Targeted survey (all respondents) Open consultation Country studies Focus group
<b>EQ 14: What would be the more likely consequences at the EU level if the Centre has not existed?</b>			
<b>SEQ 14.1:</b> What would be the more likely consequences at the EU level if the Centre has not existed	<i>No judgement criterion is defined for this question as it is not normative</i>	<b>I14.1.1</b> Number of interviewed/surveyed stakeholders able to provide example of consequences at the EU level if the Centre has not existed <b>I14.1.2</b> Stakeholder views on the relative level of accomplishment of selected indicators on current impacts in comparison to a scenario where ECDC has not existed <b>I14.1.3</b> The views of stakeholders from Member States which joined the EU in 2007 and 2013 on the added value of ECDC given the situation before and after accession <b>I14.1.4</b> CBA results on the costs/benefits of the Centre	Desk research Interviews - (all stakeholders) Targeted survey (all respondents) Open consultation Country studies Focus group

(Specific) evaluation question	Judgement criteria	Indicators	Data source
		<b>I14.1.5</b> Findings of analyses on the effectiveness of response to epidemics in regions where there are no comparable organisations	
<b>COORDINATION and COHERENCE</b>			
<b>EQ 15: To what extent did ECDC's internal coordination and coherence contribute to achieving external coherence and coordination of ECDC activities with its partners? What were the influencing factors or mechanisms to ensure coordination and coherence?</b>			
<b>SEQ 15.1</b> To what extent did ECDC's internal coordination and coherence contribute to achieving external coherence and coordination of ECDC activities with its partners? What were the influencing factors or mechanisms to ensure coordination and coherence?	<b>JC 15.1</b> ECDC's internal coordination and coherence contribute <i>to a high extent</i> to achieving external coherence and coordination of ECDC activities with its partners	<b>I15.1.1</b> Extent to which internal processes and tools for activities involving external partners (e.g. CRM) are in place/in use <b>I15.1.2</b> Stakeholder views on the extent to which ECDC's internal coordination and coherence contribute to achieving external coherence and coordination of ECDC activities with its partners <b>I15.1.3</b> Number of interviewed/surveyed stakeholders able to provide examples of how ECDC's internal coordination and coherence contribute to achieving external coherence and coordination of ECDC activities with its partners or examples of cases of lack of coherence (overlaps, contradictions) <b>I15.1.4</b> Factors affecting the extent to which ECDC's internal coordination and coherence contribute to achieving external coherence and coordination of ECDC activities with its partners	Desk research Interviews - (all stakeholders)
<b>EQ 16: To what extent the activities of ECDC are coordinated and complementary to those of the Member States?</b>			
<b>SEQ 16.1</b> To what extent the activities of ECDC are coordinated and complementary to those of the Member States?	<b>JC 16.1</b> The activities of ECDC are coordinated and complementary to those of the Member States <i>to a high extent</i>	<b>I16.1.1</b> Stakeholder views on the extent to which the activities of ECDC are coordinated and complementary to those of the Member States <b>I16.1.2</b> Number of interviewed/surveyed stakeholders able to provide examples of complementarity between the activities of ECDC and those of Member States <b>I16.1.3</b> Documentary evidence of measures taken by ECDC to coordinate and ensure complementarity with Member States' activities <b>I16.1.4</b> Results of assessment under SEQ 16.2 and 16.3	Desk research Interviews - (all stakeholders) Targeted survey (all respondents) Open consultation
<b>SEQ 16.2</b> To what extent has ECDC prevented unnecessary	<b>JC 16.2</b> ECDC prevented unnecessary or	<b>I16.2.1</b> Number of interviewed/surveyed stakeholders able to provide examples of overlapping activities between ECDC and Member States	Desk research Interviews - (all stakeholders)

<b>(Specific) evaluation question</b>	<b>Judgement criteria</b>	<b>Indicators</b>	<b>Data source</b>
or overlapping activities with Member States?	overlapping activities with Member States <i>to a high extent</i>	<b>I16.2.2</b> Documentary evidence of measures taken by ECDC to avoid overlaps with Member States <b>I16.2.3</b> Factors affecting the extent to which there are overlapping activities between ECDC and Member States	Targeted survey (all respondents) Open consultation Country studies Focus group
<b>SEQ 16.3</b> To what extent has there been adequate coordination between Member States for surveillance, alert and preparedness thanks to ECDC?	<b>JC 16.3</b> ECDC has ensure <i>to a high extent</i> adequate coordination between Member States for surveillance, alert and preparedness	<b>I16.2.1</b> Stakeholder views on the extent to which ECDC ensures adequate coordination between Member States for surveillance, alert and preparedness <b>I16.2.2</b> Number of interviewed/surveyed stakeholders able to provide examples of how ECDC ensures adequate coordination between Member States for surveillance, alert and preparedness <b>I16.2.3</b> Factors affecting the extent to which ECDC ensures adequate coordination between Member States for surveillance, alert and preparedness <b>I16.2.4</b> Documentary evidence of identified issues in the coordination between Member States <b>I16.2.5</b> Findings of the Evaluation of EU/EEA public health surveillance systems (EPHESUS)	Desk research Interviews - ECDC, MS, EUI Targeted survey (all respondents) Open consultation Country studies Focus group
<b>SEQ 16.4</b> To what extent has ECDC been able to translate innovation and research (e-health, big data, laboratories, Whole Genome Sequencing, etc.) in its activities of surveillance and alert for its own work, and for making it accessible to the Member States	<b>JC 16.4</b> ECDC has able <i>to a high extent</i> to translate innovation and research (e-health, big data, laboratories, Whole Genome Sequencing, etc.) in its activities of surveillance and alert for its own work, and for making it accessible to the Member States	<b>I16.3.1</b> Stakeholder views on the extent to which ECDC is able to translate innovation and research in its activities of surveillance and alert for its own work, and for making it accessible to the Member States <b>I16.3.2</b> Number of interviewed/surveyed stakeholders able to provide examples of how ECDC is able to translate innovation and research in its activities of surveillance and alert for its own work, and for making it accessible to the Member States <b>I16.3.3</b> Factors affecting the extent to which ECDC is able to translate innovation and research in its activities of surveillance and alert for its own work, and for making it accessible to the Member States <b>I16.3.4</b> Documentary evidence of ECDC's efforts to translate innovation and research in its activities of surveillance and alert for its own work, and for making it accessible to the Member States	Desk research Interviews - ECDC, MS, EUI Targeted survey (all respondents) Open consultation Country studies Focus group

(Specific) evaluation question	Judgement criteria	Indicators	Data source
<b>EQ 17: To what extent is the Centre ensuring appropriate coordination with WHO, GOARN, EU agencies, Commission services, scientific bodies and other partners (CDCs of third countries) that deal with comparable issue, to foster synergies and avoid duplication?</b>			
<p><b>SEQ 17.1</b> To what extent is the Centre ensuring appropriate coordination with WHO, GOARN, EU agencies, Commission services, scientific bodies and other partners (CDCs of third countries) that deal with comparable issues, to foster synergies and avoid duplication?</p>	<p><b>JC 17.1</b> The Centre is <i>to a high extent</i> ensuring appropriate coordination with WHO, GOARN, EU agencies, Commission services, scientific bodies and other partners (CDCs of third countries) that deal with comparable issue, to foster synergies and avoid duplication</p>	<p><b>I17.1.1</b> Stakeholder views on the extent to which ECDC is ensuring appropriate coordination with WHO, GOARN , EU agencies, Commission services, scientific bodies and other partners to foster synergies and avoid duplication  <b>I17.1.2</b> Number of interviewed/surveyed stakeholders able to provide examples of how ECDC is ensuring appropriate coordination to foster synergies and avoid duplication  <b>I17.1.3</b> Factors affecting the extent to which ECDC is ensuring appropriate coordination to foster synergies and avoid duplication  <b>I17.1.4</b> Documentary evidence of measures taken by ECDC to coordinate with WHO, GOARN, EU agencies, Commission services, scientific bodies and other partners (CDCs of third countries)</p>	<p>Desk research Interviews - (all stakeholders) Targeted survey (all respondents) Open consultation Country studies Focus group</p>
<b>EQ 18: To what extent the Centre’s activities are coherent with other EU Agencies/ programmes, other policies, and in particular, with the “One Health” approach or the sustainable development across the social (e.g. work on health inequalities, migrant population or hard to reach groups, etc.), environmental (e.g. work on climate change and vector borne diseases and zoonosis, etc.) and economic (e.g. reduction in the burden of diseases, etc.) pillars in the EU. What are the factors ensuring/ hindering coherence?</b>			
<p><b>SEQ 18.1</b> To what extent are the Centre’s activities coherent with other EU Agencies/ programmes?</p>	<p><b>JC 18.1</b> The Centre’s activities are coherent <i>to a high extent</i> with other EU Agencies / programmes</p>	<p><b>I18 1.1</b> Stakeholder views on the extent to which ECDC is ensuring coherence with other EU Agencies  <b>I18 1.2</b> Stakeholder views on the extent to which ECDC is ensuring coherence with the EU Health Programme  <b>I18.1.3</b> Number of interviewed/surveyed stakeholders able to provide examples of how ECDC is ensuring coherence with other EU Agencies / Programmes  <b>I18.1.4</b> Documentary evidence of coherence between the Centre’s activities and other EU Agencies/programmes  <b>I18.1.5</b> Factors affecting the extent to which ECDC is ensuring coherence with other EU Agencies</p>	<p>Desk research Interviews - ECDC, MB, AF, MS, EUI, NGOs Targeted survey (all respondents) Open consultation Country studies Focus group</p>

<b>(Specific) evaluation question</b>	<b>Judgement criteria</b>	<b>Indicators</b>	<b>Data source</b>
<b>SEQ 18.2</b> To what extent are the Centre's activities coherent with the "One Health" approach?	<b>JC 18.2</b> The Centre's activities are coherent <i>to a high extent</i> with the "One Health" approach	<b>I18.2.1</b> Stakeholder views on the extent to which ECDC is ensuring coherence with the "One Health" approach <b>I18.2.2</b> Number of interviewed/surveyed stakeholders able to provide examples of how ECDC is ensuring coherence with the "One Health" approach <b>I18.2.3</b> Documentary evidence of coherence between the Centre's activities and the "One Health" approach <b>I18.2.4</b> Factors affecting the extent to which ECDC is ensuring coherence with the "One Health" approach	Desk research Interviews - (all respondents) Targeted survey (all respondents) Open consultation Country studies Focus group
<b>SEQ 18.3</b> To what extent are the Centre's activities coherent with EU programmes and policies on the sustainable development across the social, environmental and economic pillars of the EU?	<b>JC 18.3</b> The Centre's activities are coherent <i>to a high extent</i> with EU programmes and policies on the sustainable development across the social, environmental and economic pillars of the EU	<b>I18.3.1</b> Stakeholder views on the extent to which ECDC is coherent with EU programmes and policies on the sustainable development across the social, environmental and economic pillars of the EU <b>I18.3.2</b> Number of interviewed/surveyed stakeholders able to provide examples of how ECDC is ensuring this coherence <b>I18.3.3</b> Documentary evidence of coherence between the Centre's activities and EU programmes and policies on the sustainable development across the social, environmental and economic pillars of the EU <b>I18.3.4</b> Factors affecting the extent to which ECDC is able to ensure coherence	Desk research Interviews - ECDC, MB, AF, MS, EUI Targeted survey (all respondents) Open consultation Country studies Focus group
<b>EQ 19: To what extent is the agency fulfilling the Common Approach on EU Decentralised Agencies and its Roadmap?</b>			
<b>SEQ 19.1</b> To what extent has ECDC implemented/is implementing relevant actions from the Common Approach Roadmap?	<b>JC 19.1</b> ECDC has implemented/is implementing relevant actions from the Common Approach Roadmap	<b>I19.1.1</b> Initial analysis of the implications of the Common Approach on ECDC, and/or an implementation action plan <b>I19.1.2</b> Number of interviewed/surveyed stakeholders able to provide extent to which ECDC is involved with the Performance Development Network of EU agencies, which is coordinating efforts to fulfil the Common Approach <b>I19.1.3</b> Compliance with all new templates and detailed guidance, for instance single programming document and single annual report templates and initiatives to implement activity-based management	Desk research Interviews - ECDC (Office of the Director, RMC Unit staff), MB, AF
<b>SEQ 19.2</b> To what extent have changes to processes and working	<b>JC 19.2</b> Changes to processes and working	<b>I19.2.1</b> Reviewed process descriptions, templates and task allocations <b>I19.2.2</b> Lessons learned/good practice exchange with other EU agencies	Desk research

<b>(Specific) evaluation question</b>	<b>Judgement criteria</b>	<b>Indicators</b>	<b>Data source</b>
arrangements as a result of the Roadmap been implemented?	arrangements as a result of the Roadmap have been/are being implemented	<b>I19.2.3</b> Positive feedback from stakeholders on the changes made	Interviews - ECDC (Office of the Director, RMC Unit staff), MB, AF, EUI
<b>EFFICIENCY</b>			
<b>EQ 20: To what extent has the Centre efficiently spent and managed its resources (human and financial) to achieve the objectives set out in its work programmes during the 2013-2017 period?</b>			
<b>SEQ 20.1</b> To what extent has the Centre efficiently spent and managed its resources (human and financial) to achieve the objectives set out in its work programmes during the 2013-2017 period?	<b>JC 20.2</b> The outputs and/or results of ECDC have been produced or obtained with the lowest possible use of resources/inputs (funds, expertise, time, administrative costs, etc.)	<b>I20.1.1</b> Comparison between resource planning in the work programme 2013-2017 and actual resource consumption over the reference period <b>I20.1.2</b> Ratio between the amount of an input required to achieve an output (e.g. average cost per objective/activity) <b>I20.1.3</b> Number of occasions when European Commission indicators and benchmark (20% difference compared to planning) has been surpassed <b>I20.1.4</b> Percentage of budget committed and percentage of payments executed in the same year as the commitment <b>I20.1.6</b> Rate of cancellation of payment appropriations <b>I20.1.7</b> Rate of outturn <b>I20.1.8</b> Average vacancy rate <b>I20.1.9</b> Staff savings made in line with requirements for 5% cut in headcount	Desk research Interviews - ECDC (Office of the Director, RMC Unit staff), European Commission and MB members
<b>SEQ 20.2</b> To what extent has ECDC integrated efficiently the tasks entrusted to it through Decision No 1082/2013/EU?	<b>JC 20.2</b> ECDC has integrated efficiently the tasks entrusted to it through Decision No 1082/2013/EU <i>to a high extent</i>	<b>I20.2.1</b> EC assessment of implementation of Decision No 1082/2013/EU <b>I20.2.2</b> ECDC reporting on the implementation of tasks stemming from Decision No 1082/2013/EU <b>I20.2.3</b> Additional costs related to the implementation of tasks stemming from Decision No 1082/2013/EU	Desk research Interviews - ECDC (Office of the Director, RMC Unit staff), MB, AF, MS (CCB roles)

(Specific) evaluation question	Judgement criteria	Indicators	Data source
		<b>I20.2.3</b> Stakeholder views on the extent to which the integration of tasks stemming from Decision No 1082/2013/EU is efficient	
<b>SEQ 20.3</b> To what extent are the size and structure of the organisation appropriate?	<b>JC 20.3</b> The size and structure of the organisation are appropriate <i>to a high extent</i> for the Centre's ability to implement its tasks	<b>I20.3.1</b> Organisational review assessment findings on the organisational structure of ECDC (incl. any follow-up action up to end 2018) <b>I20.3.1</b> Reorganisations in the reference period <b>I20.3.4</b> Benchmarks for management and support functions (FTE and budget) <b>I20.3.4</b> Comparison between core tasks/activities and the organisational chart	Desk research Interviews - ECDC, MB
<b>SEQ 20.4</b> To what extent have the Centre's organisational structure, governance and operations (including the implementation of activity-based budgeting) been conducive to economies of scale in ECDC and competent bodies?	<b>JC 20.4</b> The structure of the organisation, its governance and operations have been conducive to economies of scale in ECDC and competent bodies	<b>I20.4.1</b> Organisational review findings on the structure of ECDC <b>I20.4.2</b> Documentary evidence of economies of scale in ECDC and competent bodies achieved due to (changes in) the structure or the use of activity-based budgeting <b>I20.4.3</b> Evidence of duplication/redundancy in tasks across different units <b>I20.4.4</b> Evidence of the application of and results from using activity-based budgeting	Desk research Interviews - ECDC, MB
<b>SEQ 20.5</b> How has the Centre followed up on the findings of the two latest staff surveys (2015; 2017);	<i>No judgement criterion is defined for this question as it is not normative</i>	<b>I20.5.1</b> Evidence of follow up on the findings of the two latest staff surveys (2015; 2017)	Desk research Interviews - ECDC
<b>SEQ 20.6</b> How well has the Centre offset resource cuts?	<b>JC 20.5</b> The Centre has managed to offset resource cuts without major negative	<b>I20.6.1</b> Evidence of identified/applied measures for offsetting resource cuts at the Centre <b>I20.6.2</b> Organisational review findings on staff well-being	Desk research Targeted survey (staff, AF, MB) Interviews - ECDC, European Commission, MB

(Specific) evaluation question	Judgement criteria	Indicators	Data source
	consequences for the quality of outputs / staff well-being	<b>I20.6.3</b> Stakeholder views on the extent to which the Centre has managed to offset resource cuts without major negative consequences for the quality of outputs / staff well-being	
<b>EQ 21: What factors contributed or prevented ECDC from acting efficiently?</b>			
<b>SEQ 21.1</b> To what extent have the available resources been adequate for the objectives and contributed efficiently to the achievement of the Centre's objectives?	<b>JC 21.1</b> The available resources been adequate <i>to a high extent</i> for the objectives and contributed efficiently to the achievement of the Centre's objectives	<b>I21.1.1</b> Extent to which available resources were adequate for the objectives and contribute efficiently to the achievement of the Centre's objectives <b>I21.1.4</b> Stakeholder views on the influence of the availability of financial resources on ECDC's efficiency <b>I21.1.4</b> Stakeholder views on the influence of the availability of human resources on ECDC's efficiency <b>I21.1.4</b> Stakeholder views on the influence of the level of professional skills of the staff on ECDC's efficiency	Desk research Interviews, - ECDC (Office of the Director, RMC Unit staff), European Commission, MB Desk research Targeted survey - ECDC, MB, AF, MS (CCBs, NPFs, OCPs)
<b>SEQ 21.2</b> To what extent has the Centre included as part of its programming possible/expected efficiency gains, while reflecting on negative priorities/decrease of existing tasks?	<b>JC 21.2</b> The Centre has included as part of its programming possible/expected efficiency gains, while reflecting on negative priorities/decrease of existing tasks <i>to a high extent</i>	<b>I21.2.1</b> Extent to which the Centre includes as part of its programming possible/expected efficiency gains, while reflecting on negative priorities/decrease of existing tasks <b>I21.2.2</b> Stakeholder views on the influence of the ability of ECDC to plan efficiency gains on its efficiency	Desk research Interviews - ECDC (Office of the Director), European Commission, MB Targeted survey - ECDC, MB, AF, MS (CCBs, NPFs, OCPs)
<b>SEQ 21.3</b> To what extent have unexpected external factors (outbreaks, international threats, political changes ...) influenced the efficiency of ECDC?	<b>JC 21.3</b> Unexpected external factors (outbreaks, international threats, political changes ...) influenced <i>negatively</i> the efficiency of	<b>I21.3.1</b> Number of interviewed/surveyed stakeholders able to provide examples of efficiency gains / losses due to external factors <b>I21.3.2</b> Number of interviewed/surveyed stakeholders able to provide examples of the measures taken by the ECDC management / Management Board to offset negative effect of external factors <b>I21.3.3</b> Stakeholder views on the influence of external factors (e.g. outbreaks, international threats, political changes) on the Centre's efficiency	Desk research Targeted survey - ECDC, MB, AF, MS (CCBs, NPFs, OCPs) Interviews – MS, EUI, IOs, NGOs, Others

<b>(Specific) evaluation question</b>	<b>Judgement criteria</b>	<b>Indicators</b>	<b>Data source</b>
	ECDC <i>to a low extent</i>		
<p><b>SEQ 21.4</b> To what extent does the Founding Regulation allow for synergies? Have synergies been exploited on an ad hoc basis?</p>	<p><b>JC 21.4</b> The Founding Regulation allows for synergies to a high extent</p>	<p><b>I21.4.1</b> Number of interviewed/surveyed stakeholders able to provide examples of cases where the Founding Regulation facilitated the exploitation of synergies:</p> <ul style="list-style-type: none"> <li>- Within the Centre</li> <li>- Between the Centre and other EU institutions</li> <li>- Between the Centre and Member States (in particular in training &amp; communication activities)</li> <li>- Between the Centre and other organisations</li> </ul> <p><b>I21.4.2</b> Number of interviewed/surveyed stakeholders able to provide examples of cases where due to legal requirements laid down in the Founding Regulation, ECDC cannot take advantage of potential synergies and instead has to duplicate work (own or carried out by other organisations)</p> <p><b>I21.4.3</b> Number of interviewed/surveyed stakeholders able to provide examples of synergies achieved on an ad hoc basis</p> <p><b>I21.4.4</b> Stakeholder views on the influence of the scope of the Centre's mandate for its efficiency</p>	<p>Desk research Interviews - ECDC, MB, MS (CCBs, NFPs), EUI, IOs</p>
<p><b>EQ 22: To what extent have the Centre's internal organisation, operations and working practices, as created by the Founding Regulation and Decision No 1082/2013/EU, been conducive to its efficiency</b></p>			
<p><b>EQ 22.1</b> Are the roles of the Management Board and Advisory Forum defined in a way that allows for an effective and efficient operation, including sufficient supervision of the Centre, and budgetary aspects, and in a way that allows MB/AF members, the competent bodies, and ECDC staff, to formulate</p>	<p><b>JC 22.1</b> The roles of the Management Board and Advisory Forum are defined in a way that allows for an effective and efficient operation, including sufficient supervision of the Centre, and budgetary aspects, and in a way that allows MB/AF members, the</p>	<p><b>I22.1.1</b> Descriptions of the roles of the Management Board and the Advisory Forum and expert review of:</p> <ul style="list-style-type: none"> <li>- clarity of the tasks</li> <li>- presence of overlaps/gaps</li> </ul> <p><b>I22.1.2</b> Stakeholder views on the extent to which the roles of the Management Board and Advisory Forum are defined in a way that allows for an effective and efficient operation, including sufficient supervision of the Centre, and budgetary aspects</p> <p><b>I22.1.3</b> Number of requests/questions submitted to the Management Board and Advisory Forum by members, competent bodies and ECDC staff</p> <p><b>I22.1.4</b> Number of cases (and examples) in which request/questions were declined by the Management Board / Advisory Forum on grounds of insufficient mandate to address them</p>	<p>Desk research Interviews - ECDC, MB, AF, MS (especially Coordinating Competent Bodies and National Focal Points), EUI Targeted survey (staff, MB, AF) Focus groups with key stakeholders in MS (especially Coordinating Competent Bodies and National Focal Points)</p>

<b>(Specific) evaluation question</b>	<b>Judgement criteria</b>	<b>Indicators</b>	<b>Data source</b>
adequate requests to the MB and AF?	competent bodies, and ECDC staff, to formulate adequate requests to the MB and AF	<b>I22.1.5</b> Stakeholder views on the extent to which members, competent bodies, ECDC staff are able to formulate adequate requests to the Management Board and Advisory Forum	
<b>SEQ 22.2</b> To what extent do the working practices, decisions of the Management Board and advice of the Advisory Forum allow for an efficient operation of the Centre?	<b>JC 22.2</b> The working practices, decisions of the Management Board and advice of the Advisory Forum allow for an efficient operation of the Centre <i>to a high extent</i>	<b>I22.2.1</b> Decisions taken by the MB 2014-2018 <b>I22.2.2</b> Advice provided by the AF 2014-2018 <b>I22.2.3</b> Extent to which decisions and advice were related to efficiency improvements in the operation of the Centre <b>I22.2.4</b> Documentary evidence of efficiency improvements in the operation of the Centre following decisions of the MB or advice of the AF <b>I22.2.5</b> Stakeholder views on the extent to which the working practices and decisions of the Management Board allow for an efficient operation of the Centre <b>I22.2.6</b> Stakeholder views on the extent to which the working practices and advice of the Advisory Forum allows for an efficient operation of the Centre	Desk research Targeted survey (staff, MB, AF, MS-CCBs, NFPs) Interviews - ECDC, MB, AF
<b>SEQ 22.3</b> To what extent is the clarity of the division of tasks of the ECDC, the Health Security Committee, the Member States, the Commission, the Scientific Committees and the European Parliament sufficient for avoiding duplication of work and for allowing efficient cooperation and/or coordination?	<b>JC 22.3</b> The clarity of the division of tasks of the ECDC, the Health Security Committee, the Member States, the Commission, the Scientific Committees and the European Parliament is sufficient for avoiding duplication of work and for allowing efficient cooperation and/or coordination	<b>I22.3.1</b> Descriptions of the tasks of the ECDC, the Health Security Committee, the Member States, the Commission, the Scientific Committees and the European Parliament in the area of public health policy in the EU and expert review of: <ul style="list-style-type: none"> <li>- clarity of the tasks</li> <li>- presence of overlaps/gaps</li> </ul> <b>I22.3.2</b> Stakeholder views the extent to which there is sufficient clarity in the division of tasks to avoid duplication of work and allow efficient cooperation and/or coordination <b>I22.3.3</b> Number of interviewed/surveyed stakeholders able to provide examples of duplication of work between these entities <b>I22.3.4</b> Number of interviewed/surveyed stakeholders able to provide examples of efficient cooperation and/or coordination between these entities	Desk research Targeted survey (staff, MB, AF, EC) Interviews - ECDC, MB, AF, EUI (EC, EP), NGOs, Other

<b>(Specific) evaluation question</b>	<b>Judgement criteria</b>	<b>Indicators</b>	<b>Data source</b>
<p><b>SEQ 22.4</b> To what extent are the structure of ECDC and the working methods appropriate to get the best input and day-to-day coordination with Competent Bodies, National Focal Points and independent experts?</p>	<p><b>JC 22.4</b> The structure of ECDC and the working methods are appropriate <i>to a high extent</i> to get the best input and day-to-day coordination with Competent Bodies, National Focal Points and independent experts</p>	<p><b>I22.4.1</b> Description of roles and coordination mechanism for ECDC's work with Competent Bodies, National Focal Points and independent experts</p> <p><b>I22.4.2</b> Stakeholder views (and change compared to 2<sup>nd</sup> evaluation survey) on the extent to which the structure of ECDC and the working methods are appropriate to get the best input and day-to-day coordination with Competent Bodies, National Focal Points and independent experts in terms of:</p> <ul style="list-style-type: none"> <li>- Overall clarity of respective roles and responsibilities of National Coordinators and ECDC</li> <li>- Overall clarity of roles and responsibilities of National Focal Points</li> <li>- Overall clarity of roles and responsibilities of Operating Contact Points</li> <li>- Coherence of coordination structures with institutional and governance set-up in the country</li> <li>- Overall efficiency of communication flow with ECDC staff</li> <li>- Complementarity and synergy between national competent bodies and the ECDC governance bodies i.e. the Management Board and the Advisory Forum</li> </ul> <p><b>I22.4.3</b> Number of interviewed/surveyed stakeholders able to provide examples of (in)effectiveness of the structure and working methods for ensuring appropriate coordination with Competent Bodies, National Focal Points and independent experts</p>	<p>Desk research Targeted survey (staff, MB, CCBs, NFPs, OCPs) Interviews - ECDC, MB, AF, MS (CCBs, NFPs, OCPs)</p>
<p><b>EQ 23: To what extent is the structure and organisation (management systems and process, mechanism for programming, monitoring, reporting and evaluation the agency, etc.) of the Centre adequate to the work entrusted to it and to the actual workload in order to contribute to the efficiency? To what extent do they ensure accountability and appropriate assessment of the overall performance of the Centre while minimising the administrative burden?</b></p>			
<p><b>SEQ 23.1</b> To what extent is the structure and organisation of the Centre (management systems and process, mechanism for programming, monitoring, reporting</p>	<p><b>JC 23.1</b> The structure and organisation of the Centre are adequate, in terms of the work entrusted to it and the associated workload,</p>	<p><b>I23.1.1</b> Organisational review assessment findings on the organisational structure of ECDC (incl. any follow-up actions up to end-2018)</p> <p><b>I23.1.2</b> Organisational review assessment findings on the management systems and processes of ECDC (incl. any follow-up actions up to end-2018)</p>	<p>Desk research Interviews – ECDC (SMT, RMC unit), MB</p>

<b>(Specific) evaluation question</b>	<b>Judgement criteria</b>	<b>Indicators</b>	<b>Data source</b>
and evaluation in the agency, etc.) adequate in terms of the work entrusted to it and the associated workload for contributing to the Centre's efficiency?	for contributing to the Centre's efficiency	<p><b>I23.1.3</b> Comparison of ECDC's resources for programming, reporting and evaluation to those of other EU Agencies with similar size / mandate</p> <p><b>I23.1.4</b> Number of interviewed/surveyed stakeholders able to provide examples of how the input provided by the EC, EP and other EU Agencies to the programming process has been used to improve efficiency – e.g. areas identified by the MB/AF as being prioritised too much</p>	
<p><b>SEQ 23.2</b> To what extent do the management systems and process, the mechanism for programming, monitoring, reporting and evaluation in the Centre ensure <b>accountability and appropriate assessment of the overall performance of the Centre while minimising the administrative burden?</b></p>	<p><b>JC 23.2</b> The management systems and process, the mechanism for programming, monitoring, reporting and evaluation in the Centre ensure <i>to a high extent</i> accountability and appropriate assessment of the overall performance of the Centre while minimising the administrative burden</p>	<p><b>I23.2.1</b> Number of interviewed/surveyed stakeholders able to provide examples of past streamlining efforts, including good practice exchange with other EU agencies as regards ways of minimising the administrative burden of programming, monitoring, reporting and evaluation in the Centre</p> <p><b>I23.2.2</b> Stakeholders assessment of degree to which the processes and mechanisms for programming, monitoring, reporting and evaluation are efficient (i.e. deliver value that is higher than the associated costs / administrative burden)</p> <p><b>I23.2.3</b> Extent to which the results of monitoring, reporting and evaluation processes are followed-up on:</p> <ul style="list-style-type: none"> <li>- Stakeholder views on the relevance of follow-up activities</li> <li>- Documentary evidence of follow-up on the results of monitoring, reporting and evaluation processes (e.g. degree of implementation of evaluation recommendations)</li> </ul>	<p>Desk research Interviews - ECDC (core functions, RMC unit, ICT unit), MB</p>
<p><b>SEQ 23.3</b> To what extent have the existing administrative arrangements, working methods, and agreements between ECDC and its partners worked efficiently and</p>	<p><b>JC 23.3</b> The existing administrative arrangements, working methods, and agreements between ECDC and its partners have worked efficiently <i>to a high extent</i></p>	<p><b>I23.3.1</b> Documentary evidence of existing administrative arrangements, working methods, and agreements between ECDC and its partners (EFSA, EMA, ECMDDA, WHO Europe, MSF) – information on:</p> <ul style="list-style-type: none"> <li>- Resource implications (on ECDC) for cooperation arrangements</li> <li>- Benefit of the cooperation for ECDC / partners</li> </ul> <p><b>I23.3.2</b> Stakeholder views on the extent to which the existing administrative arrangements, working methods, and agreements</p>	<p>Desk research Interviews - ECDC (ED, RMC, international relations), IOs (WHO), EUI (EFSA, EMA, ECMDDA), NGOs (MSF), Other</p>

<b>(Specific) evaluation question</b>	<b>Judgement criteria</b>	<b>Indicators</b>	<b>Data source</b>
how can they be simplified?		between ECDC and its partners worked efficiently and how they can be simplified <b>I23.3.3</b> Number of interviewed/surveyed stakeholders able to provide examples of how the existing administrative arrangements, working methods, and agreements between ECDC and its partners worked efficiently and identify areas for future simplification	
<b>SEQ 23.4</b> To what extent is the <b>ratio administrative/operational staff</b> adequate for fulfilling the Centre's tasks, and to what extent is the Centre benchmarking this ratio?	<b>JC 23.4</b> The ratio administrative/operational staff adequate <i>to a high extent</i> for fulfilling the Centre's task	<b>I23.4.1</b> Ratio administrative/operational staff (and change over time) <b>I23.4.2</b> Ratio administrative/operational staff relative to that of other EU Agencies (and national public health institutes if comparable data is available) <b>I23.4.3</b> Results of 2018 Organisation review regarding the staff and structure of the Centre	Desk research
<b>EQ 24: To what extent has the Centre been successful in creating synergies and an optimal use of combined resources allocated for the implementation of its mandate and EU policies (e.g. One Health Policy, sustainable development and health inequalities) to manage operations? What factors contributed to this?</b>			
<b>SEQ 24.1</b> To what extent has the Centre been successful in creating synergies and an optimal use of combined resources for the implementation of its mandate and EU policies	<b>JC 24.1</b> ECDC has succeeded in setting up coherent working relationships and achieving internal (cross-function / -task) synergies and external synergies for the implementation of its mandate and EU policies	<b>I24.1.1</b> Combined resources allocated to ECDC for the implementation of its mandate and EU policies (amounts, objectives, conditions, etc.) <b>I24.1.2</b> Number of interviewed/surveyed stakeholders able to provide examples of measures taken to create synergies internally / externally for the implementation of EU policies and its mandate <b>I24.1.3</b> Documentary evidence of measures taken to create synergies internally / externally for the implementation of EU policies and its mandate <b>I24.1.4</b> Stakeholder views on the extent to which opportunities for synergies and efficiencies have been used <b>I24.1.5</b> Factors that enabled or impeded the creation of synergies and optimal use of combined resources	Desk research Interviews - ECDC (RMC), MB, EUI, IOs

# Appendix B: Methodological approach

---

## *Intervention Logic Model*

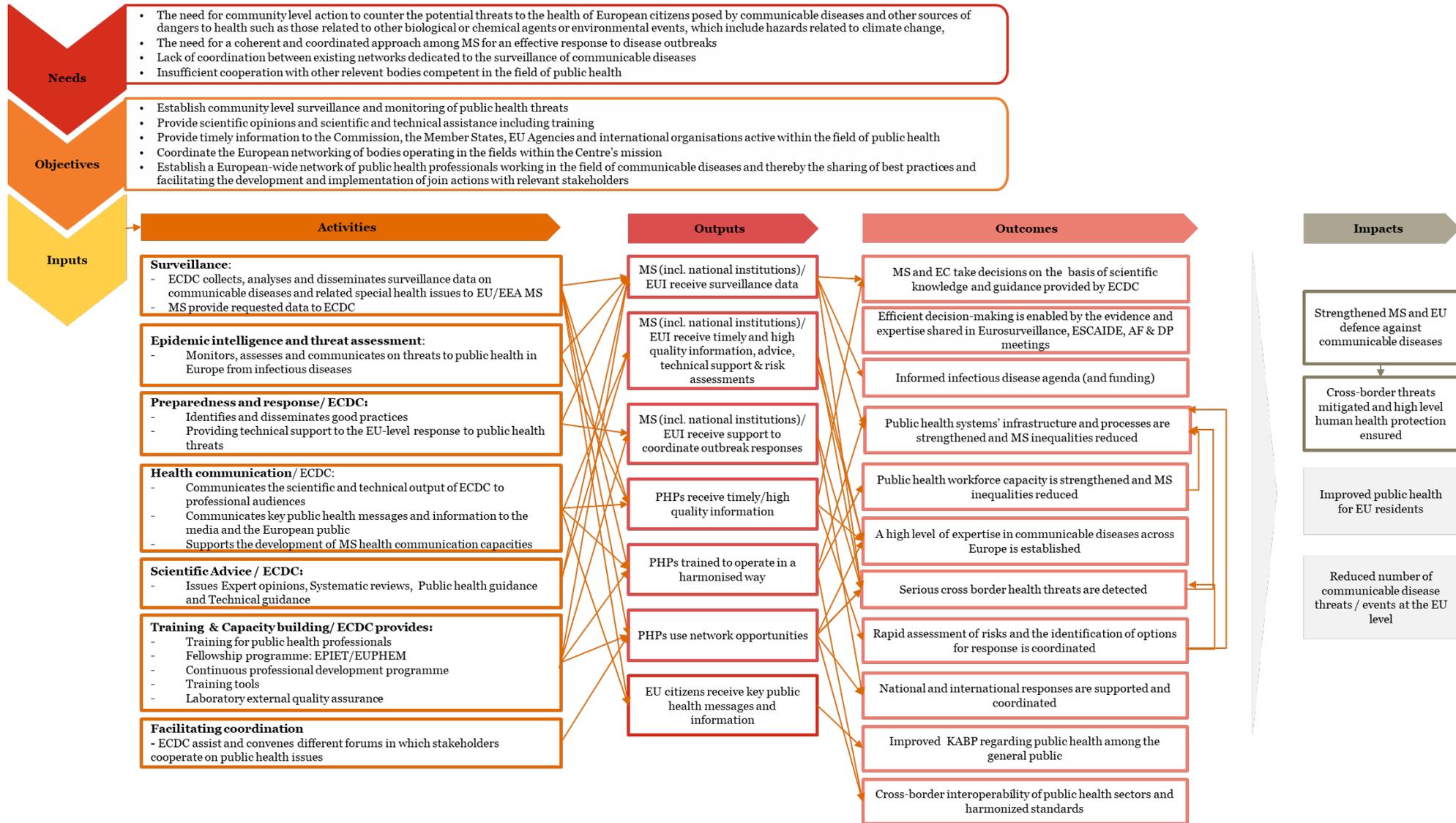
---

As indicated in the Better Regulation Guidelines, reconstructing the intervention logic (IL) of an organisation's mandate is the "starting point" of its evaluation. The logic of the evaluated intervention, or the IL, is a schematic, and therefore simplified, representation of the set of statements and casual assumptions explaining how these activities are expected to perform, step by step, towards these objectives. In the context of this assignment, the IL is a visual representation of the rationale of ECDC's mandate and activities, and the expected impacts and overarching objectives. It represents the causal chain in seven steps:

- Needs: the elements of the original as-is situation which need to be addressed
- Objectives: the specific changes ECDC aims to enact as a result of their activities
- Inputs: resources for ECDC to act (financial, technical, human, etc.);
- Activities: what is produced (financed/accomplished) with the inputs allocated to ECDC i.e. the activities undertaken under the mission of ECDC;
- Outputs: the first level results / the operational objectives of ECDC;
- Outcomes: the mid-term/long-term effects of ECDC's activities. They represent the overall objectives of the ECDC's mission;
- Impacts: represent what ECDC is expected to contribute to in the long run. They are not necessarily specific to ECDC (they are also influenced by other external factors), but represent what could be its long-term effects.

The IL for the evaluation, presented in Figure 3, was prepared on the basis of desk research and input from the evaluation team's public health experts and a workshop with ECDC Advisory Forum members representing a diverse set of EU/EEA MS (CZ, DE, LT, NL, RO, SI, SE, NO), a representative of the European Commission, three of the Centre's staff members and an non-governmental organisation (NGO). It is acknowledged that the scope of this consultation was limited, necessitated by logistical realities and the limited timeframe for carrying out the activity. Nevertheless, the intention of the workshop was a 'sense checking' exercise to verify the Assignment team's understanding based on input from stakeholders knowledgeable in ECDC's work. In addition, due to the fact that this group represented a relatively diverse set of countries and actors, it was considered a sufficient activity in order to achieve the intended objective.

Figure 1 Updated intervention logic model



---

## Evaluation matrix

---

The evaluation matrix is presented in Appendix A. It features all 24 main evaluation questions and the defined specific evaluation questions and their corresponding judgement criteria, indicators and main types of data sources.

---

## Desk research activities

---

Desk research was carried out in order to identify and process data available in secondary sources. This included statistical data as well as information available in the sources identified in the inception report for the evaluation or identified by the consulted stakeholders, the main types being:

- ECDC documentation (annual reports, programming documents, policies, strategies, minutes of meetings of the Management Board and Advisory forum, process descriptions, etc.);
- ECDC outputs (publications, tools, databases, data sets, analyses of bibliometric data, etc.);
- Documentation from the European Commission, Council, Parliament, Court of Auditors (legislation, recommendations, opinions, working documents, reports, press releases, minutes of meetings, etc.);
- Documentation from international organisations (legislation, reports, datasets, etc.);
- Academic literature.

A complete bibliography for the evaluation is available at the end of the main evaluation report.

Documentary sources were analysed with the help of the qualitative coding software Nvivo. Specifically, Nvivo was used for:

- 1) **Automatic coding** of information through queries based on key search terms - this approach was used both to carry out a first identification of relevant sources for certain topic and for secondary checks following targeted review of documents which have been pre-identified as relevant sources of information in the evaluation matrix.
- 2) **Manual coding** of information – this approach was used to facilitate the content analysis of the gathered information. The coding tree for this analysis covered all evaluation questions. Once the coding was completed, information under coding node/evaluation question was reviewed and the evaluator made a judgement of whether it is indeed relevant for answering the evaluation question.

### Bibliometric data

The desk research also included the analysis of bibliometric data prepared by ECDC for different types of its publications, reflecting on the following two indicators:

- Average impact factor – For each year in the scope of the evaluation, based on citations in the preceding 5 years (adjusted for the time lag for articles in academic publications to build up references) which provides a broader range of citation activity for a more informative picture over time.
- Average number of publications for each article.

Concretely, the evaluation considered the results of the Peer review publication analysis done for the EPHESUS evaluation, which cover:

- Healthcare-associated infections (HAI) publications (2012-2017);
- AMR reports and databases (2010-2017);
- Food- and Waterborne Diseases network reports (2011-2018);
- Legionnaires disease reports (2011-2017).

Analysis prepared by the ECDC library was also taken into account:

- Citation analysis for Prevention and control of infectious diseases among people who inject drugs (2011-2017);
- Citation analysis for HIV testing: increasing uptake and effectiveness in the European Union (2010-2015).

Since a lot of deliverables of ECDC are “metabolised” by the Member States and the coordinating bodies rather than shared or referred to directly through national documents and platforms, bibliometric data cannot capture

sufficiently the use of the Centre's outputs. Therefore, the desk research also covered sources indicated by respondents of the survey consultation activities as being based on a sample of ECDC outputs. The sample drawn for this analysis comprised 30 studies and surveys selected among the publications listed in the Centre's Annual Reports (2013-2017). The sample represents a mix of different types of reports and different themes published in each of the years under investigation.

Table 1 Sample of publications for in-depth analysis (2017)

Year of publication	Type	Title	Preparedness	Immunisation	Antimicrobial	HIV/AIDS	Hepatitis	TB	Syphilis	Rubella	Influenza	Diphtheria	Legionnaires	Salmonella	Measles	Plague	Ebola	Zika
2017	Technical reports	Proposals for EU guidelines on the prudent use of antimicrobials humans		x														
2017	Technical reports	Effectiveness and cost-effectiveness of antenatal screening for HIV, hepatitis B, syphilis and rubella susceptibility			x	x												
2017	Technical reports	Hepatitis B and C testing activities, needs, and priorities in the EU/EEA				x												
2017	Technical reports	Seasonal influenza vaccination in Europe: vaccination recommendations and coverage rates in the EU Member	x							x								
2017	Technical reports	Guide to revision of national pandemic influenza preparedness plans: Lessons learned from the 2009 A(H1N1) pandemic								x								
2017	Technical reports	ECDC tool for the prioritisation of infectious disease threats	x															
2017	Technical reports	Gap analysis on securing diphtheria diagnostic capacity antitoxin availability in the EU/EEA										x						
2017	Surveillance reports	Molecular typing for surveillance of multi-drug resistant tuberculosis in the EU/EEA					x											
2017	Surveillance reports	ECDC/EFSA/EMA second joint report on the integrated analysis of the consumption of antimicrobial agents and occurrence of antimicrobial resistance in bacteria from humans and food-producing animals		x														
2017	Guidance reports	Guidance for healthcare workers on the use of personal protective equipment in the management of bubonic and pneumonic plague patients														x		
2017	Guidance reports	Use of Google AdWords for HIV prevention among men who have sex with men in the European Union/European Economic Area			x													
2017	Regular publications	Measles and rubella monitoring								x					x			
2017	Rapid risk assessment	Seasonal influenza, EU/EEA, 2016–2017																
2017	Rapid risk assessment	Multidrug-resistant tuberculosis in migrants, multi-country cluster – second update, 27 March 2017					x											
2017	Rapid risk assessment	Ongoing outbreak of measles in Romania, risk of spread and epidemiological situation in EU/EEA countries													x			
2017	Rapid risk assessment	Outbreak of Ebola virus disease in Bas Uele province, Democratic Republic of the Congo; 8th update															x	
2017	Rapid risk assessment	Hepatitis A outbreaks in the EU/EEA mostly affecting men who have sex with men, 2nd update			x													
2017	Rapid risk assessment	Increase of Legionnaires' disease in EU travellers returning from Dubai since October 2016											x					
2013	Technical reports	Review of outbreaks and barriers to MMR vaccination coverage among hard to reach populations in European countries													x			
2013	Technical reports	External quality assurance scheme for <i>Haemophilus influenzae</i> 2011								x								
2013	Technical reports	EMIS 2010: The European Men-Who-Have-Sex-With-Men Internet Survey			x													

Year of publication	Type	Title	Preparedness	Immunisation	Antimicrobial	HIV/AIDS	Hepatitis	TB	Syphilis	Rubella	Influenza	Diphtheria	Leishmaniasis	Salmonella	Measles	Plague	Ebola	Zika
2013	Technical reports	Survey on rubella, rubella in pregnancy and congenital rubella surveillance systems in EU/EEA countries								x								
2013	Technical reports	ERLN-TB expert opinion on the use of the rapid molecular assays for the diagnosis of tuberculosis and detection of drug resistance			x			x										
2013	Technical reports	Migrant health: Sexual transmission of HIV within migrant groups in the EU/EEA				x												
2013	Technical reports	Fourth external quality assessment scheme for Salmonella typing												x				
2013	Technical reports	Diagnostic preparedness in Europe for detection of avian influenza A(H7N9) viruses									x							
2014	Technical reports	Healthcare system factors influencing treatment results of patients with multidrug-resistant tuberculosis			x			x										
2014	Technical reports	Point prevalence survey of healthcare-associated infections and antimicrobial use in European long-term care facilities			x													
2014	Technical reports	External quality assessment for influenza antiviral susceptibility for the European Reference Laboratory Network for Human Influenza									x							
2015	Technical reports	Best practices in ranking emerging infectious disease threats: A literature review	x															
2015	Technical reports	Vaccine hesitancy among healthcare workers and their patients in Europe		x														
2015	Guidance reports	Guidance on varicella vaccination in the European Union		x														
2015	Expert opinion	Expert Opinion on the introduction of new drugs for tuberculosis control in the EU/EEA						x										
2016	Technical document	Zika virus disease epidemic: Preparedness planning guide for diseases transmitted by Aedes aegypti and Aedes albopictus																x
2016	Technical document	Point prevalence survey of healthcare-associated infections and antimicrobial use in European acute care hospitals – protocol version 5.3			x													
2016	Expert opinion	Expert opinion on whole genome sequencing for public health surveillance																
2016	Scientific advice	Systematic review on hepatitis B and C prevalence in the EU/EEA					x											
2016	Expert opinion	Zika virus and safety of substances of human origin – A guide for preparedness activities in Europe																x

### Consultation activities

The consultation activities sought to collect views from the main groups of stakeholders identified in the stakeholder mapping (Appendix E). As the collected data represents the views of the respondents, in order to avoid overt bias in the overall dataset, the consultation activities were designed with a consideration of achieving, to the extent possible, balance across different types of stakeholder groups. Where the sample of respondents could be determined from the outset – e.g. interviews and consultations in the course of the country visits and focus groups – the sample was drawn so as to ensure balanced representation across Member States. For the consultation activities in which the stakeholders could choose whether to provide input or not – the targeted consultation and the public consultation – the approach will be to ensure that the surveys are available to the entire population surveyed and corrected for any excessive bias in the data analysis. For the public consultation, there is an inherent limitation in its reach to citizens living in rural areas where there is no internet access since the public consultation is internet

based. However, this is a constraint for all online consultations on EU policy initiatives and it is not feasible to correct for it within the scope of the evaluation.

A summary of how the main groups of stakeholders are addressed through the consultation activities is portrayed in the following Table. Some stakeholder groups were consulted via multiple consultation activities as each activity had a different goal.

Table 2 Consultation strategy overview

Stakeholder group	Sub-group	Interviews	Targeted survey	Public consultation	Country visits	Focus groups
<b>Member States</b>	MB, AF, Coordinating Competent Body (CCB) –roles, NPHIs	x	x		x	x
	Policy makers	x		x	x	x
<b>European Union institutions</b>	European Parliament	x		x		
	The Council	x		x		
	European Commission	x	x			x
	Controlling Authorities			x		
	Agencies / Group I: Active cooperation	x	x			
	Agencies / Group II: Ad-hoc cooperation			x		
	Executive agencies	x	x			
	Other European Union institutions (EUI) and related			x		
<b>International organisations</b>		x		x		
<b>NGOs</b>	Group I: Active cooperation	x		x		
	Group II: Ad-hoc cooperation			x		
<b>Learned societies</b>	Group I: Active cooperation	x		x		x
	Group II: Ad-hoc cooperation			x		x
<b>National Public Health Institutes in 3rd countries</b>	European Neighbourhood Policy (ENP), Instrument of Pre-Accession Assistance (IPA)	x		x		
	Other	x		x		
<b>EU citizens</b>				x		
<b>Other (e.g. industry)</b>				x		

### Open public consultation

#### Approach

The open consultation was launched on 07 December 2018 through the EU Survey tool. The consultation questionnaire was available in English, German and French. A link to the consultation was published on a number of communication platforms:

- ECDC website, newsletter and Twitter account
- DG SANTE website and newsletter
- EU Health Policy Platform
- PwC EU Services LinkedIn

In addition, the evaluation team sent a direct email with an invitation to complete the consultation survey to 46 different organisations, identified in the stakeholder mapping exercise. These organisations also received 2 reminders to complete the consultation. The consultation was open until 1 March 2019.

#### Results

30 complete responses to the public consultation were received. A summary of the consultation results will be provided in the Consultation synopsis in Appendix F.

#### Limitations

The response rate to the public consultation can be considered to be low, especially when benchmarked against the response rate of other open public consultations in the area of public health. For example, the 2018 public consultation on the Commission's roadmap on the Council Recommendation on strengthened cooperation against vaccine-preventable diseases, received 8894 replies.<sup>2</sup> 97% of all responses were from citizens, but 60% of the total answers were linked to the communication on the consultation by one non-governmental organisation. However, the results may be comparable to those of other public consultations on EU Agency evaluations. A reviews of the consultation reports available on the EC's consultation portal identified 3 such consultations:

- The public consultation on the evaluation of EMSA carried out in 2017 received 27 responses, 3 of which were of citizens;<sup>3</sup>
- The public consultation on the evaluation of the EEA and EIONET in 2017 received 21 responses from individuals and organisations who had a general interest in the EEA;<sup>4</sup>
- The public consultation on the evaluation of ENISA carried out in 2017 received 99 responses, none of which were categorised as citizens. Rather, individual respondents answered the questions in their "professional" capacity.<sup>5</sup>

Nevertheless, it should be pointed out that unlike most public consultations, including the ones referred to above, the consultation for the ECDC evaluation was not published on the consultation platform of the European Commission, due to procedural rules at the Commission according to which only consultations run by the Commission can be published on the platform. This limited the exposure of the consultation to members of the general public who visit the platform and to the broad group of interest organisations which have subscribed to receive automatic notifications for consultations in the area of health. Efforts to raise awareness of the consultation via the communication platforms listed above appear to have had limited effectiveness given the low number of responses received.

---

<sup>2</sup> European Commission (2018) Synopsis Report Accompanying the document Communication from the Commission to the European Parliament, The Council, The European Economic and Social Committee and The Committee of Regions and Proposal for a Council Recommendation on Strengthened Cooperation against Vaccine Preventable Diseases, Available at: [https://ec.europa.eu/health/sites/health/files/vaccination/docs/2017-2018\\_consultation\\_synopsis\\_en.pdf](https://ec.europa.eu/health/sites/health/files/vaccination/docs/2017-2018_consultation_synopsis_en.pdf)

<sup>3</sup> [https://ec.europa.eu/info/consultations/public-consultation-evaluation-european-maritime-safety-agency-including-its-pollution-response-services\\_en](https://ec.europa.eu/info/consultations/public-consultation-evaluation-european-maritime-safety-agency-including-its-pollution-response-services_en)

<sup>4</sup> [http://ec.europa.eu/environment/integration/pdf/knowledge/EEA\\_EIONET\\_evaluation\\_staff\\_working\\_document.pdf](http://ec.europa.eu/environment/integration/pdf/knowledge/EEA_EIONET_evaluation_staff_working_document.pdf)

<sup>5</sup> [https://ec.europa.eu/info/consultations/public-consultation-support-evaluation-european-environment-agency-and-its-european-environment-information-and-observation-network-0\\_en](https://ec.europa.eu/info/consultations/public-consultation-support-evaluation-european-environment-agency-and-its-european-environment-information-and-observation-network-0_en)

## Targeted survey

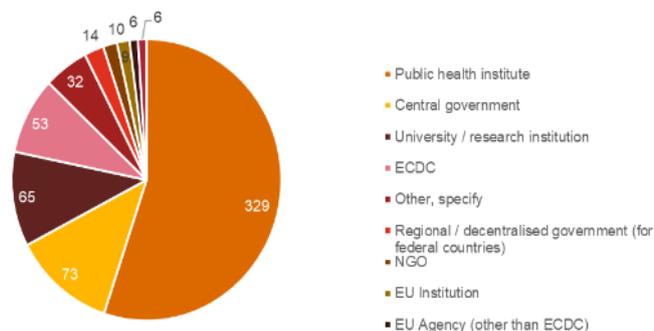
### Approach

The targeted survey was developed on the basis of the questionnaire validated in the revised Inception Report, with small amendments following feedback from the piloting exercise, in which the survey was tested by 11 respondents. The survey was launched on 06 December 2018 through PwC's survey platform. The survey was disseminated directly to 1049 unique respondents from the CCB structures with a direct email, containing an individual link to the survey which each respondent could use to (re)access it at their own convenience. The National Coordinators of CCBs were also invited to disseminate the survey to other stakeholders in the area of communicable diseases at national level who they thought would be interested in providing their feedback to the evaluation. Staff of ECDC (n= 263)<sup>6</sup> was invited to fill out the survey via an email from the Executive Director of ECDC, which contained an open link to the survey.<sup>7</sup>

Reminders to the respondents with a direct link to the survey were sent on 3 occasions. The survey was closed on 18 January 2019.

### Output

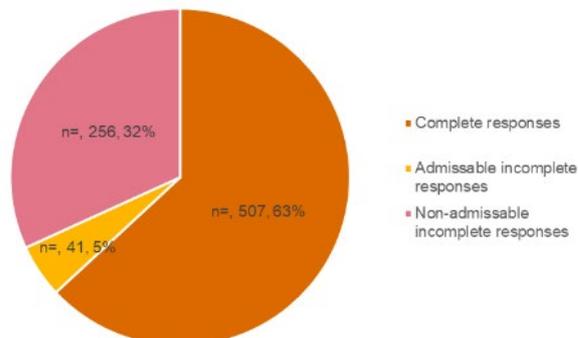
Figure 3 Targeted survey response by professional background of the respondent (multiple responses possible)



which puts the response rate of ECDC staff at about 17%. This is considerably lower than the response rate collected in survey of staff carried out for other EU agency evaluations.<sup>9</sup> Feedback from ECDC staff suggests that this could be due to respondent fatigue and perceived difficulty of completing the survey due to the fact that it had to be filled out in one go.

Further analysis of the responses collected from stakeholders at national level shows that they came predominantly from persons who hold a role in the Competent Coordinating Bodies of the EU/EEA Member States. As one individual can hold multiple roles, the response rate can be assessed in terms of unique responses as well as total responses. In terms of unique responses, there were 308 unique respondents who hold at least one role (incl. Management Board and Advisory Forum members), which represents 28.5% of all unique role-holders. These respondents indicated that they hold 435 roles in total, which is 22% of all CCB roles listed in CRM in October 2018.

Figure 2 Total number of responses to the survey



A total of 507 complete responses to the survey were received. In addition, 41 incomplete responses were deemed "admissible" – these were submitted through an individual link which provided feedback on at least 10 questions. Responses with only "Don't know" answers were excluded. Thus, the total number of respondents included in the analysis stands at 548. This represents an overall response rate of approximately 40%.<sup>8</sup>

More than half of the admissible responses (referred to as "responses" from here onwards) came from the respondents employed at public health institutes. Close to 10% of all responses came from ECDC staff,

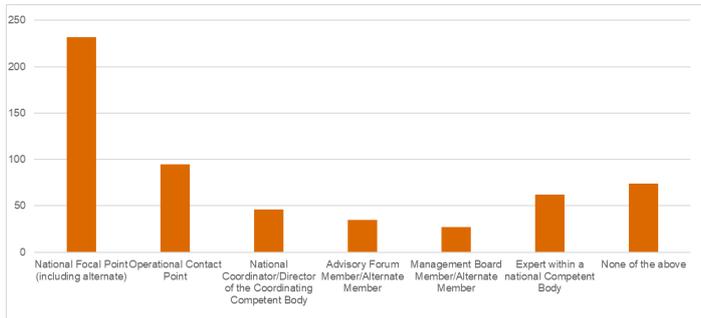
<sup>6</sup> Based on No of total staff in 'European Centre for Disease Prevention and Control. Annual report of the Director – 2017. Stockholm: ECDC; 2018'

<sup>7</sup> Under this option, the respondent could not re-open a survey they have started but existed before submitting all responses – they would have start from the beginning.

<sup>8</sup> A more precise estimate is not possible as the number of stakeholders who received the survey via the National Coordinators cannot be ascertained with 100% accuracy.

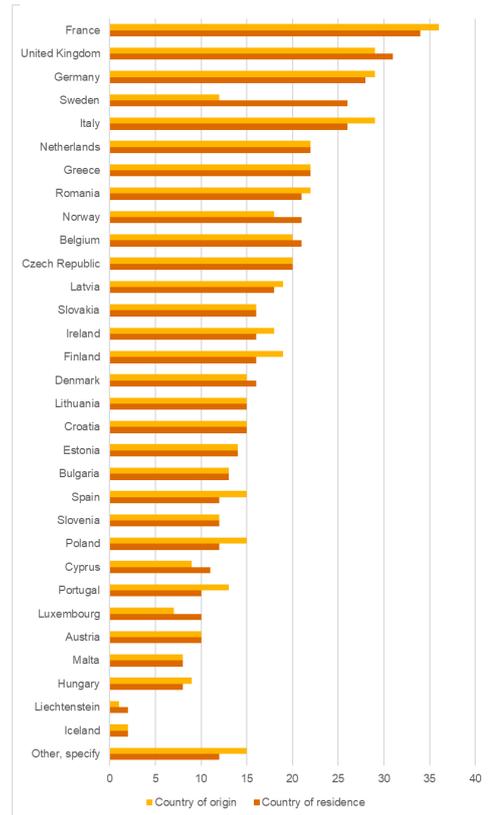
<sup>9</sup> E.g. The survey carried out for the 2018 EFSA evaluation had a staff response rate of 49%.

Figure 4 National stakeholders involvement in Member State governance/collaboration system (multiple responses possible)



In terms of the country distribution, the respondents were asked to indicate their country of residence as the country whose situation they will use as a baseline for their opinions. As can be seen from the following figure, the survey received responses from stakeholders residing in all EU/EEA Member States and variations in the number of responses per country are fairly proportionate to the size of the population of the country and the number of unique targeted respondents from the CCB structures, with the exception of Sweden, due to the ECDC staff respondents. As their responses are considered separately in case of analysis that reflects on country differences, none of the countries can be considered to be over-represented which limits the potential bias in the final dataset that was used to analyse the collected data for this report.

Figure 5 Number of respondents per country



### Limitations

Although the survey response rate was high and comparable to that of the previous evaluation, several limitations can be noted:

- A number of stakeholders complained that the survey is too long and/or that the survey questions are unclear and overlapping. The complainants did not provide concrete examples of lack of clarity or overlaps, but this overall feedback should be taken into account for the objective and scope of future consultation activities undertaken in relation to ECDC activities or their evaluation, as consultation fatigue has a negative impact on the quality of data collected as well as on the stakeholders' overall impression of the Centre.
- More than 30 respondents complained of technical issues with the survey tool, where they received error messages in the process of filling out or submitting the survey. Where possible, these issues were resolved, and all feedback was shared with the PwC technical team behind the survey tool for further investigation and follow-up. The evaluation team provided their apologies to the stakeholders who were inconvenienced by these issues.

### Survey on the extended mandate

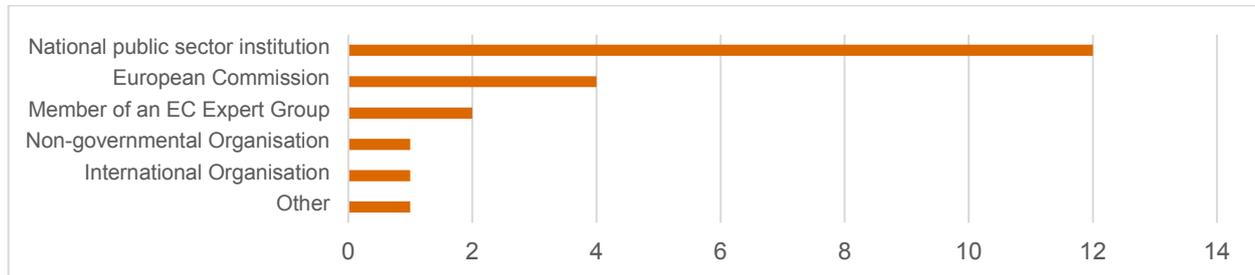
#### Approach

A dedicated survey on the subject of the potential extension of the mandate of ECDC was set up in order to target stakeholders in the areas considered for the extension who would not be reached via the rest of the consultation activities. It was addressed to members of several EC Expert Groups, the European Commission, EU Agencies, and EU-level associations. In addition, the National Coordinators of the ECDC CCBs were asked to distribute it to national level stakeholders in the areas under consideration. The survey was launched on 13 December 2018 and closed on 20 February 2019.

## Output

The survey received a total of 21 responses – half of the respondents represented national public sector institutions and the rest were a mix of European Commission representatives and representatives of NGOs and international organisations.

Figure 6 Number of responses to the survey on the extended mandate per stakeholder group



As can be seen in Figure 7, the responses from national institutions and NGOs came from 11 EU countries and 1 non-EU country. Most of the respondents provided feedback on only one of the areas for extension of the mandate considered. 9 respondents provided feedback on more than one area.

The area which received most comments was that of health information (11 assessments) followed by cross-border threats to health (10 assessments). In comparison, health promotion was selected by only 5 respondents.

Figure 7 Country where the organisations of respondents from national institutions are based



## Phone and country visit interviews

### Approach

Interviews were carried out over the phone and in the context of 4 country visits – to Romania, Italy, Greece and France.<sup>10</sup> A total of 120 interviews have been carried out throughout the evaluation.

Table 3 Overview of interviews' status

Type	Completed	Type	Completed
<b>Management Board</b>	12	<b>NGOs</b>	2
<b>Advisory Forum</b>	13	<b>Learned societies</b>	8
<b>CCB NCs/Directors</b>	11	<b>ECDC staff</b>	17
<b>NFPs/OCPs</b>	28	<b>PH institutes</b>	5
<b>National policy makers</b>	11	<b>Other</b>	2
<b>EU Agencies</b>	3	<b>European Commission</b>	7
<b>IOs</b>	1	<b>TOTAL</b>	<b>120</b>

<sup>10</sup> The countries for the country visits were selected on the basis of a set of sampling criteria including geographical location, year of accession to the EU, population size, type of organisation of the public health system, country level results on indicators of public health outcomes such as detection rate of rifampicin-resistant tuberculosis and multidrug-resistant tuberculosis, Level of laboratory system capacity and capability based on the ECDC EULabCap country Index 2016, the presence of immunisation information systems, and some country-specific factors.

The interviews covered representatives of all EU/EEA Member States.

### Output

The interviews were documented in interview minutes which were coded with the help of the Nvivo software for qualitative coding. The use of the software facilitated the aggregation of content from the different interview minutes under the evaluation questions where it was relevant and enabled the transparent and robust analysis of the data.

### Limitations

A limitation of the interviews is that due to the large number of questions which have to be addressed through the evaluation, it was not possible to cover all relevant ones within the one hour timeslot that was available for each interview. As a result, the amount of data collected under different questions is uneven, but nevertheless there are no major gaps. Follow-up interviews were used to strengthen the evidence base where needed.

### **Focus groups**

Four focus groups were organised in April/May 2019. 3 of the focus groups took place in person in with a mix of stakeholders of ECDC (CCB members, policy makers) in Bulgaria, Lithuania and Spain. In these focus groups, the objective was to validate the preliminary findings and recommendations of the evaluation with the Centre's current stakeholders. The approach of the focus group was to present the preliminary findings and recommendations under each evaluation criterion to the participants and ask them to vote on these they agreed with the most and the least, with the latter becoming subject for plenary discussion in order to clarify the participant's disagreement. The participants were also asked to provide their input to the SWOT analysis for ECDC.

The fourth focus group took place online and included a diverse set of participants (representatives of learned societies, public health institutes, the European Commission), who are stakeholders in the non-communicable disease areas in which an extension of ECDC's mandate is considered. This focus group focused only on the question of whether there is a need to extend the mandate of ECDC to the areas of health information, monitoring, determinants, behaviour and promotion. In order to ensure a common basis for the discussion, the participants received in advance of the meeting a short background paper with some of the preliminary analysis of the question. A SWOT model was used as the basis for the focus group discussion – the participants were asked to express their agreement/disagreement with the strengths, weaknesses, opportunities and threats pre-identified by the evaluation team and provide their suggestion for additional aspects to be concerned.

The results of the focus groups are reflected in the Final report.

---

## *Analytical methods*

---

The proposed analytical methodology applies a **mixed methods approach**. This is a well-validated research and evaluation approach that uses various analytical methods at different stages of the project in order to respond to the EQs. The various analyses complement, link with, and feed into each separate component of the evaluation, to collectively generate robust insights that are corroborated from multiple sources.

The principle of triangulation has been applied consistently in order to analyse the data collected, to minimise possible bias, thus develop robust conclusions to the EQs. Triangulation facilitates the validation of data through cross verification of findings from at least three sources. It tests the consistency of findings obtained through different instruments and increases the chance to control, or at least assess, some of the threats or multiple causes influencing the results.

### *Qualitative data analysis*

Qualitative data analysis is used to analyse qualitative data collected through desk research and the different stakeholder consultation activities. The software NVivo was used to facilitate the coding of qualitative data. In the analysis of qualitative stakeholder consultation data (interviews, answers to open survey questions), qualified estimates (many/some/a number of/multiple) have been used to indicate the magnitude of a certain trend in the responses. It is an inherent limitation of qualitative data analysis that the use of such qualified estimates cannot be subject to a single quantitative scale. Rather, the assessment of sufficiency for referring to such qualified estimates

in the analysis is done by the evaluators for each individual question, taking into account responses collected through the different stakeholder consultation methods and from different types of stakeholders. In comparison, consultation feedback collected via the closed questions of the different survey activities has been presented in figures, showing the allocation of responses in different categories in percentage of the total. The qualitative analysis of the data also refers to the percentage values or uses terms like “majority” or “most of” in order to refer to responses provided by more than 50% of the respondents.

### *Counterfactual analysis*

The European Commission Joint Research Centre defines counterfactual impact evaluation as a method of comparison which involves comparing the outcomes of interest of those having benefited from a policy or programme (the “treated group”) with those of a group similar in all respects to the treatment group (the “comparison/control group”), the only difference being that the comparison/control group has not been exposed to the policy or programme. The comparison group provides information on “what would have happened to the members subject to the intervention had they not been exposed to it”, the counterfactual case. Typically, counterfactual analysis is thus based on quantitative experimental designs, which are able to isolate comparable groups and study the impact of the analysed intervention on them.

Such designs are generally difficult to implement in the context of EU policy assessments, especially in cases where it is unlikely to identify a clear “attribution” effect. Rather, most EU policy interventions aim at “contributing” to certain policy outcomes, in recognition of the strong influence of national policies and context. For example, public health outcomes are the result of policy actions taken at local, regional, national and supra-national level by governmental and non-governmental actors and can rarely be attributed to the actions taken by an individual institution. In the EU context, the EC, ECDC and WHO provide complementary support to Member States and it is impossible to disentangle their individual contributions. Furthermore, there is no available control/test group for EU countries which received ECDC support and which did not.

One way of applying counter-factual thinking to policy interventions of this type is that of non-experimental designs based on a logically constructed counterfactual and key informant assessments. This approach takes the “status quo” of an intervention as a baseline and looks for options and evidence of what would have happened in the absence of the intervention.<sup>11</sup> In the present evaluation, such an approach was applied to EQ14 “*What would be the most likely consequences at the EU level if the Centre has not existed?*”. Two specific lines of analysis were pursued. Firstly, interviewed stakeholders in newly acceded Members States (2007 and 2013 enlargement) were asked to compare the situation before and after their accession to the EU and consequent full access to the activities of ECDC. Secondly, the evaluation considered the response to epidemics in parts of the world where there are no regional organisations that provide support to surveillance and response the way that ECDC does and compared it to the assessed benefits of ECDC in that area.

The limitation of this approach is that it is less robust than counterfactual analysis based on quantitative assessment. Nevertheless, we consider that it provides a relevant framework for analysing the added value of the Centre.

### *Cost-benefit analysis*

To help answer efficiency-related questions of the evaluation, we have considered the standard best-practice tools and approaches for developing a monetised cost-benefit analysis (CBA) also mentioned in the ToR. However, all cost benefit analysis models considered have severe limitations, e.g.: potential inaccuracies in identifying and quantifying costs and benefits, increased subjectivity for intangible costs and benefits, inaccurate calculations of present value resulting in misleading analyses, room for speculation, as well as scope that can be too narrow/broad to provide actionable insight. The specific shortcomings of ‘textbook’ methods and tools are outlined in the following table.

---

<sup>11</sup> See e.g. [https://www.betterevaluation.org/en/rainbow\\_framework/understand\\_causes/compare\\_results\\_to\\_counterfactual](https://www.betterevaluation.org/en/rainbow_framework/understand_causes/compare_results_to_counterfactual)

Table 4: Overview and limitations of traditional cost-benefit analysis models

Method / tool	Description	Limitations
<b>Standard Cost Model</b>	<ul style="list-style-type: none"> <li>Allows to produce standardised figures for the resources used by businesses in order to comply with specific laws and executive orders</li> <li>Aims at identifying those parts of regulation that require businesses to make information available to public authorities or third parties</li> <li>To fulfil the required information obligations, affected businesses normally have to carry out additional administrative activities. Therefore, the model estimates the administrative costs of regulation as the costs of carrying out the various activities required</li> </ul>	<ul style="list-style-type: none"> <li><b>Narrow scope:</b> can only be used for estimating costs, benefits not covered</li> <li><b>Partial view:</b> offers insight into administrative costs and no other types of cost</li> <li><b>Limited applicability:</b> takes into account impact on business at national level only</li> </ul>
<b>Cost-benefit analysis according to the study "Assessing the Costs and Benefits of Regulation"</b>	<ul style="list-style-type: none"> <li>Helps decide how to proceed in order to identify, quantify and monetise costs and benefits in an <i>ex ante</i> impact assessment</li> <li>Entails the monetisation of all (or the most important) costs and benefits related to all viable alternatives</li> <li>Focuses on obtaining a "net benefits" calculation (being benefit minus costs)</li> </ul>	<ul style="list-style-type: none"> <li><b>Different purpose:</b> the method is meant for comparing policy options <u>before</u> implementation</li> <li><b>'Tunnel' view:</b> it disregards distributional impacts and only focuses on the selection of the regulatory alternative that exhibits the highest net benefit</li> <li><b>Prerequisites:</b> the method should be used only if <u>all</u> direct benefits (societal and environmental) and costs can be monetised, and only if its impact justifies time invested in building it</li> </ul>
<b>Cost-benefit analysis as per "Guide to Cost-Benefit Analysis of Investment Projects"</b>	<ul style="list-style-type: none"> <li>Used to appraise an investment decision in order to assess the welfare change attributable to it and, in so doing, the contribution to EU cohesion policy objectives</li> <li>Facilitates a more efficient allocation of resources, demonstrating the convenience for society of a particular intervention rather than possible alternatives</li> <li>In particular, it is required, among other elements, as a basis for decision making on the co-financing of major projects included in operational programmes of the European Regional Development Fund and the Cohesion Fund</li> </ul>	<ul style="list-style-type: none"> <li><b>Specific use:</b> determines if a <u>new</u> investment project requires funding from the EU and whether it is desirable/if it should go ahead, so is not applied <i>ex post</i></li> <li><b>Seeking profitability:</b> the method takes a long-term view (typically 10 years) to estimate if the investment project would be profitable after a number of years, therefore ill-placed for shorter-term assessments</li> <li><b>Excluding some benefits:</b> the method only provides for a qualitative description of indirect and wider effects (i.e. on other initiatives or for the public/society)</li> </ul>

Moreover, an attempt to apply CBA to the entire ecosystem of disparate activities ECDC performs will bring little added value. Such an approach will face significant additional constraints, e.g. that cross-activity costs and benefits will be hard to identify, risking that the analysis is uninformative if too broad or – if too detailed – that it does not allow consolidation of data between activities.

Similarly, going for a CBA method, which compares a current situation with a baseline, alternative or performing cost benchmarking with peers, pose other issues. Specifically, a logical option for the evaluation could have been to compare what the costs and benefits are of having ECDC perform selected activities, and what the costs and benefits would be of MS doing the same. The limitations of this line of investigation include:

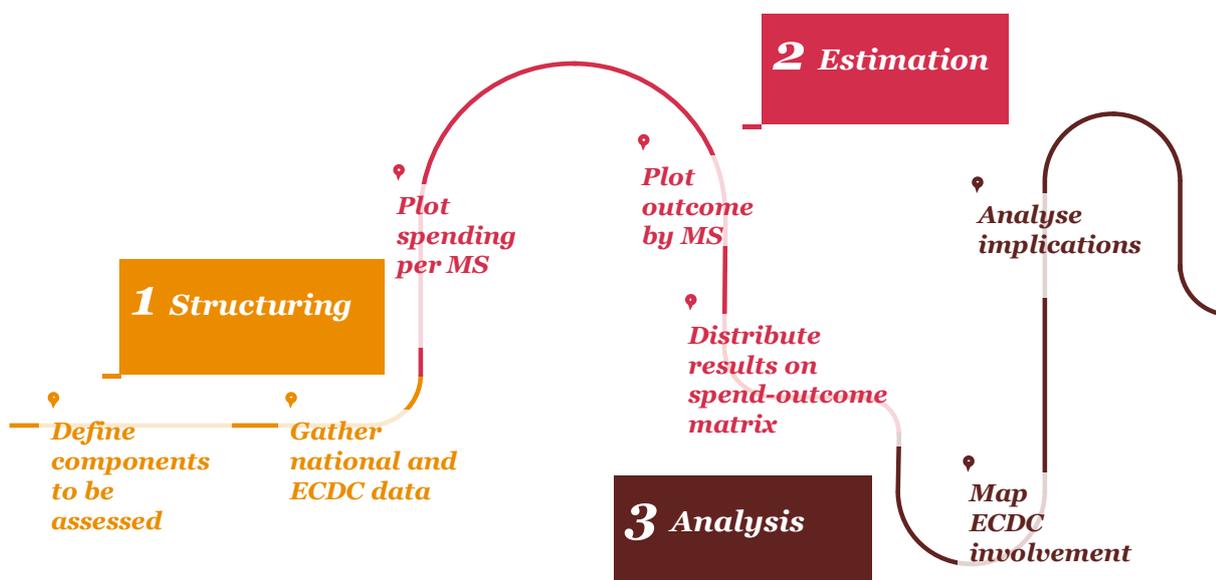
- That in the absence of ECDC, Member States must cooperate bilaterally, which will incur additional cost to be factored in at a level which is not fully comparable to the available data on the pre-ECDC network budgets, due to changes in the scope of some networks since their integration into the Centre and that ECDC performs tasks additional to those of the networks;
- The fact that a comparison for some activities is not possible, as Member States do not perform the same tasks as ECDC and national public health institutes have different scope of activities in different Member States. Therefore, any attempt to identify a common set of activities that can be compared between ECDC and a (representative sample of) Member States would be subject to a very long list of assumptions and caveats, severely limiting the added value of the analysis and its replicability;
- The fact that the scope of different ECDC tasks changed and grew over time (subject to Decision 1082/2013, the Centre's strategy as well as decisions of the Management Board or requests of the

Commission), making it challenging to compare a baseline from the beginning of the evaluation period with the status-quo at the end of the evaluation period..

In addition to the issues identified for CBA tools, it should be noted that economic evaluations in the public health domain are few and challenging to perform. Indeed, a recent systematic review<sup>12</sup> shows hardly any economic evaluations have ever been done and they are difficult to do, even for academic units.

To address the above limitations of CBA models, the evaluation applied a variation of this approach designed for public health spending– the Spend and Outcome Tool. The tool is used to plot local areas by healthcare SPEND on a particular programme versus a proxy OUTCOME measure for the same programme. Researchers can then position the local areas on a spend-outcome matrix, in four groupings/quadrants: low spend-low outcomes, high spend-high outcomes, low spend-high outcomes, high spend-low outcomes. The model has been applied to “spend” indicators of EU Member States spending on public health and communicable disease control and “outcome” indicators related to public health outcomes such as death rate due to communicable diseases, incidence of tuberculosis, country performance on the LabCap index and country performance on the IHR country capacity index. A selection of ECDC activities, which are assessed to bring a direct benefit to countries (country visits, support with whole genome sequencing, and training of public health professionals in the ECDC Fellowship Programme), were plotted against the spend-outcome matrix to analyse whether they match countries with low spending/outcome levels, thus answering the question of whether there is more ECDC support for countries that have low spend-low outcomes? This in turn helps answer whether ECDC has invested its resources efficiently, into priority areas of intervention. The Figure below illustrates the main steps in the chosen approach:

Figure 8: Main steps in using the Spend and Outcome Tool for the 3rd external evaluation of ECDC



---

## Lessons learned

---

This section provides an overview of the lessons learned throughout the process of performing the 3rd External Evaluation of ECDC project. Given that the Centre is required to undergo an external evaluation every five years by its Founding Regulation No 851/2004, the intention of these lessons learned is to inform and improve the future evaluations of the Centre, allowing them to take advantage of identified best practices.

---

<sup>12</sup> <https://academic.oup.com/eurpub/article/26/4/674/2467295>

### *Addition of a Synopsis Report of all stakeholder consultation activities as a deliverable*

The evaluation report has as an annex a synopsis report of the public consultation survey. However, given the limitations of a mixed-methods research design, (see section on Limitations under “Methodological Approach” in the Final Report), it was identified that the development of a synopsis report of all consultation activities would have been of added value. The synopsis report would have contained information on the categories of stakeholders consulted, the types of activity, divergences in opinions and different opinions emerging, as well as stakeholders consulted, in order to provide the Assignment’s Steering Committee with deeper insights into the coverage and consultation of stakeholders, as well as stratify trends in the opinions of different stakeholder groups. This would also have helped afford them more clarity on the diversity of views and weight of different stakeholder opinions in the entire evidence base of findings which the report presents, as well as any limitations.

### *Replicability of analyses*

The evaluation was based a mixed-methods research design, combining primary and secondary sources, and qualitative and quantitative data. In several instances, the evaluation performed rapid evidence assessments on samples of relevant documents (see e.g. SEQ 1.2 and SEQ 11.3 in Draft Final Report). However, the evaluation did not consistently make reference to the documents included in these samples. In keeping with best practices of qualitative research methodologies, future evaluations should rigorously document all documents reviewed in order to ensure the replicability and transparency of the research carried out.

Secondly, although triangulation with available quantitative or documentary evidence was used where possible, under certain findings, secondary sources were not identified (see e.g. SEQ 4.11, EQ 13). Although the evaluation team clarified where no secondary sources were identified, they did not document where evidence was searched, which engine/database and which key words were used etc. The general approach for such research has been to operationalise search terms based on the key words and synonyms and search for these in the NVivo database of documents collected for the evaluation. When no relevant search results emerged, the evaluation team search for relevant information on ECDC’s website or online and requested evidence from staff at the Centre or other relevant stakeholders. In keeping with the principle of replicability, future evaluations of the Centre should systematically document where and how secondary sources of information were searched for under each evaluation question, in order to fully ensure the study’s replicability.

# Appendix C: Results of specific desk-research activities

In this Appendix, we present some outputs of the targeted desk research carried out to review and synthesise the secondary evidence, which have been referred to in the report but not included directly due to space constraints.

## Ad-hoc review of EU policy documents in the area of AMR, immunisation and vaccine hesitancy

Coverage is the percentage of the source that the reference coding represents

Table 5 Outputs of the analysis of references to ECDC in policy documents in the area of AMR

Name	Year of publication	References to ECDC	Coverage	Main ECDC sources referenced
EFSA Scientific Opinion - Risk for the development of Antimicrobial Resistance (AMR) due to feeding of calves with milk containing residues of antibiotics	2016	9	0.01%	ECDC/EFSA/EMA/SCENIHR Joint Opinion on antimicrobial resistance (AMR) focused on zoonotic infections (2009);
A European One Health Action Plan against Antimicrobial Resistance (AMR)	2018	8	0.03%	ECDC/EMA Joint Technical Report: The bacterial challenge: time to react (2009);
European Commission - Antimicrobial resistance and causes of non-prudent use of antibiotics in human medicine in the EU ISBN 978-92-79-66537-0	2017	19	0.01%	ECDC/EMA Joint Technical Report: The bacterial challenge: time to react (2009); ECDC Summary of the latest data on antibiotic consumption in the European Union. ESAC-Net surveillance data (November 2015); ECDC, Antimicrobial resistance surveillance in Europe 2014;
European Commission - Prudent use of antimicrobial agents in human medicine: third report on implementation of the Council recommendation ISBN 978-92-79-57568-6	2016	15	0.02%	ECDC Surveillance report — Point prevalence survey of healthcare-associated infections and antimicrobial use in European long-term care facilities (2014); European Centre for Disease prevention and Control, Systematic review of the effectiveness of infection control measures to prevent the transmission of carbapenemase-producing Enterobacteriaceae through cross-border transfer of patients — Technical report (2014); ECDC Summary of the latest data on antibiotic consumption in the European Union. ESAC-Net surveillance data (November 2015);
EFSA Scientific Opinion - The European Union summary report on antimicrobial resistance in zoonotic and indicator bacteria from humans, animals and food in 2016	2018	113	0.03%	ECDC EU protocol for harmonised monitoring of antimicrobial resistance in human Salmonella and Campylobacter isolates (2014, 2016); ECDC Antimicrobial resistance surveillance in Europe 2016. Annual Report of the European Antimicrobial Resistance Surveillance Network (EARS-Net) (2017); ECDC/EFSA/EMA/SCENIHR Joint Opinion on antimicrobial resistance (AMR) focused on zoonotic infections (2009);
European Parliament Report on a European One Health Action Plan against Antimicrobial Resistance (AMR) (2017/2254(INI))	2018	18	0.03%	ECDC/EFSA/EMA Joint report on the integrated analysis of the consumption of antimicrobial agents and occurrence of antimicrobial resistance in bacteria from humans and food-producing animals (2011-2012) (JIACRA I) (2015); ECDC/EFSA/EMA second joint report on the integrated analysis of the consumption of antimicrobial agents and occurrence of antimicrobial resistance in bacteria from humans and food-producing animals (2013-2015) (JIACRA II) (2017);

Name	Year of publication	References to ECDC	Coverage	Main ECDC sources referenced
				ECDC/EFSA The European Union summary report on antimicrobial resistance in zoonotic and indicator bacteria from humans, animals and food in 2016; ECDC Point prevalence survey of healthcare-associated infections and antimicrobial use in European acute care hospitals;
European Parliament - Resolution of 13 September 2018 on a European One Health Action Plan against Antimicrobial Resistance (AMR) (2017/2254(INI))	2018	17	0.05%	ECDC Report on the surveillance of antimicrobial resistance in Europe (2016); ECDC/EFSA The European Union summary report on antimicrobial resistance in zoonotic and indicator bacteria from humans, animals and food in 2016; ECDC Point prevalence survey of healthcare-associated infections and antimicrobial use in European acute care hospitals.

Table 6 Outputs of the analysis of references to ECDC in policy documents in the area of vaccination and vaccine hesitancy

Name	Year of publication	References to ECDC	Coverage	Main ECDC sources referenced
Council conclusions on vaccinations as an effective tool in public health (2014/C 438/04)	2014	8	0.10%	Communication toolkits developed by the ECDC
European Commission - State of play on implementation of the Council Recommendation of 22 December 2009 on seasonal influenza vaccination (2009/1019/EU) (Staff Working Document)	2014	69	0.14%	ECDC Risk Assessment, Seasonal Influenza 2012; ECDC TECHNICAL REPORT IMPLEMENTATION OF THE COUNCIL RECOMMENDATION ON SEASONAL INFLUENZA VACCINATION (2009/1019/EU)
European Commission - State of Vaccine Confidence in the EU 2018	2018	12	0.01%	ECDC Factsheet about seasonal influenza (2018); ECDC Press Release on the low uptake of influenza vaccination in Europe; ECDC Vaccination Scheduler;
European Parliament Resolution on Vaccine hesitancy and drop in vaccination rates in Europe	2018	3	0.03%	ECDC Immunisation information systems in the EU and EEA. Technical report (2017); ECDC Vaccine-preventable diseases and immunisation: Core competencies. Technical report (2017)
European Commission - The organization and delivery of vaccination services in the European Union	2018	36	0.01%	ECDC Current practices in immunisation policy-making in European countries (2015); ECDC Monthly measles and rubella monitoring reports; ECDC Seasonal influenza vaccination in Europe Vaccination recommendations and coverage rates in the EU Member States for eight influenza seasons (2018) ECDC Catalogue of interventions addressing vaccine hesitancy (2017).
Communication from the European Commission on Strengthened Cooperation against Vaccine Preventable Diseases	2018	9	0.07%	ECDC Monthly measles and rubella monitoring report,
European Commission - Report of the Expert Panel on effective ways of investing in Health (EXPH) on VACCINATION PROGRAMMES AND HEALTH SYSTEMS IN THE EUROPEAN UNION	2018	17	0.03%	ECDC Overview of vaccination recommendations and coverage rates in the EU Member States for the 2013–14 and 2014–15 influenza seasons; ECDC Vaccine hesitancy among healthcare workers and their patients in Europe, 2015;
European Commission - Synopsis Report accompanying the Proposal for a Council Recommendation on Strengthened Cooperation	2018	6	0.06%	ECDC Vaccination schedules for individual European countries and specific age groups (2018); Rapid literature review on motivating hesitant population groups in Europe to vaccinate (2015); Catalogue of interventions addressing vaccine hesitancy (2017);

Name	Year of publication	References to ECDC	Coverage	Main ECDC sources referenced
against Vaccine Preventable Diseases				

Figure 9 Migration-related publications on Eurosurveillance (2014-2018)<sup>13</sup>

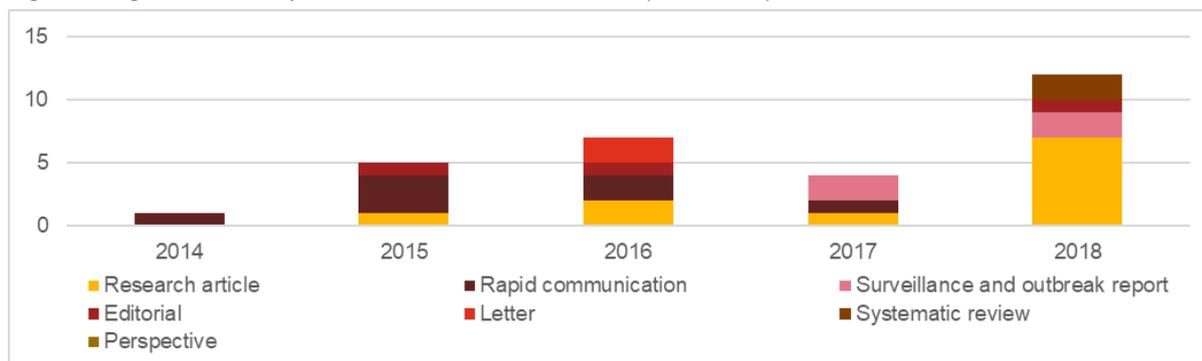


Table 7 List of ECDC outputs on the economic burden of diseases (2013-2018)

Year	Title	Type of publication
2018	Impact of infectious diseases on population health using incidence-based disability-adjusted life years (DALYs): Results from the burden of communicable diseases in Europe study, European Union and European economic countries, 2009 to 2013	Peer-Reviewed Publication
2018	Cost-effectiveness analysis of programmatic screening strategies for latent tuberculosis infection in the EU/EEA	Publication
2018	Unexplored Opportunities: Use of Climate- and Weather-Driven Early Warning Systems to Reduce the Burden of Infectious Diseases	Peer-Reviewed Publication
2018	Disability weights for infectious diseases in four European countries: comparison between countries and across respondent characteristics.	Peer-Reviewed Publication
2017	Expert opinion on rotavirus vaccination in infancy	Publication
2017	Hepatitis B and C testing activities, needs, and priorities in the EU/EEA	Publication
2017	Estimating the annual burden of tick-borne encephalitis to inform vaccination policy, Slovenia, 2009 to 2013	Peer-Reviewed Publication
2014	Assessing the burden of key infectious diseases affecting migrant populations in the EU/EEA	Publication
2014	Assessing the burden of key infectious diseases affecting migrant populations in the EU/EEA	Publication

<sup>13</sup> Based on a search carried out in March 2019 on all publications with the key terms "migration", "refugee" and "asylum". A total of 318 unique publications containing these terms were identified in Eurosurveillance. The publications were reviewed to establish whether the subjects are indeed addressed in the publication or are only mentioned in the bibliography. For 2014-2018, 66 relevant publications were identified.

# Appendix D: Implementation of the Common Approach Roadmap

*Table 8 Overview of status of implementation of the Common Approach Roadmap actions for Agencies*

<b>Action</b>	<b>Status</b>	<b>Comment</b>
<b>Headquarters</b> 8. Sign a headquarter agreement in accordance with the legal order of the relevant Member State	Implemented	A headquarter agreement between ECDC and the Swedish government has been signed.
<b>Rationalisation</b> 15- Consider sharing services between agencies, either by proximity of locations or by policy area	Implemented	The staff survey is carried out through a procurement contract covering multiple agencies, including ECDC. Another example is the Alegro HR tool, where some of the modules are based on other Agencies' work. Missions model was initially developed in EU-lisa.
18- Provide mutual early information on international activities	Implemented	No mechanism per se on consultation with other Agencies, unless it is on activities already involved other Agencies. ECDC informs the Commission about all international activities which should provide for coordination. SPD is sent for consultation to relevant EU agencies like EFSA, EMA, EMCDDA and EEA, so activities planned in these
19- If the agency's mission requires cooperation with authorities of third countries, adopt an international relations strategy, in principle embedded in the annual and / or multiannual work programme	Implemented	An international relations policy (2014-2020) was adopted in 2014. Embedded in programmes
20- Submit specific initiatives with an international dimension (e.g. administrative arrangements with third countries) to the approval of the Management Board	Implemented	These are reflected in the annual work programme which is subject to MB approval.
22- Ensure the communication strategy is coherent, relevant and coordinated with the strategies and activities of the Commission and the other institutions	Implemented	ECDC Communication Strategy 2020, adopted in 2016, reflects on this aspect
<b>Websites</b> 24 Make websites as multilingual as possible and ensure they provide information necessary for (financial) transparency	Partly implemented	The website of ECDC is available only in English. ECDC's Communication strategy states that due to the high cost of translation, ECDC will provide content targeted at the expert community in English only. The digest of the annual report highlights is translated in all EU languages. The language policy of ECDC specifies that key publications for the general public are provided in all official EU languages, plus Icelandic and Norwegian, within available budget. The annual budget and final annual accounts are published on the website.

Action	Status	Comment
25- Ensure the website mentions that they are European Union agencies	Implemented	“Agency of the European Union” is stated below the full name of ECDC on the homepage of the website.
<b>Annual Work Programme</b> 27- Reinforce the link between financial and human resources and each specific action to be carried out and make it systematic	Implemented	The SPD reflects on both financial and human resources for activities.
28- Develop and use key performance indicators	Implemented	The SPD and annual reports include KPIs.
<b>Multi-annual Work Programme</b> 29- Draw up multiannual strategic programmes or guidelines linked with multiannual resource planning (budget and staff in particular) and linked with successive annual work programmes	Implemented	ECDC adopted a strategic multiannual programme (SMAP) 2014-2020 which is linked to the ensuing Annual work programmes and later SPDs. As of 2017, the SPD includes a 3-year rolling part, which is ensuring link to the ongoing SMAP. For the future, the role of the SMAP will be played entirely by the 3-year rolling plan of the SPD, with a long-term strategy for the Centre providing the overall context and direction.
30- Report to the Management Board on the agency's progress in implementing the multiannual work programme	Implemented	In 2016 ECDC produced Mid-term review of the implementation of SMAP 2014-2020. The Annual report shows progress on the objectives and KPIs set.
<b>Single Annual Report</b> 32- Produce a single annual report, as far as possible	Implemented	ECDC has been producing a single annual report for the years under evaluation
<b>Conflicts of interest</b> 34- Adopt and implement a clear policy on conflicts of interest and, in particular, exchange experience and possibly develop a coordinated approach to common problems concerning scientific committees and boards of appeal, and define transparent and objectively verifiable criteria for the impartiality and independence of the members of Boards of appeal	Implemented	In July 2016, the Management Board (MB) approved a revised independence policy document which included major changes in the way conflict of interest is handled at ECDC both for staff and non-staff.
35- Review selection procedures for members of scientific committees	Implemented	There is a defined procedure for the nominations to the Advisory Forum
<b>Relations with national agencies / administrations</b> 38- Maintain relations with national agencies and define clearly the respective roles	Implemented	The roles for relations with national agencies are available in the 2012 document <i>Coordinating Competent Bodies: structures, interactions and terms of reference</i> .
<b>Relations with stakeholders</b> 42- When relevant stakeholders are not represented in management boards, involve them in internal bodies and/or advisory groups/working groups, where appropriate	Implemented	Non-governmental organisations are observers in the Advisory Forum.
43- Coordinate with the different actors charged with the definition and implementation of a policy to exercise their functions	Implemented	Coordination mechanism with DG SANTE, with WHO (biannual meeting and work programme) and with other agencies as necessary some regular coordination mechanism.
44- Ensure the relations with stakeholders (e.g. the United Nations and other international organisations, sister agencies in	Implemented	This is defined in ECDC's international policy.

Action	Status	Comment
third countries, and Member States' agencies) are coherent with their mandate, the institutional division of tasks in international relations, EU policies and priorities, and Commission's actions		
<b>Evaluation</b> 46- Ensure that evaluations cover the accessibility of agencies and the selection procedures for / independence of members of scientific committees and boards of appeal	Partly implemented	Independence policy ensures declarations of interest. The selection procedure is not covered explicitly in the scope of the present evaluation, but it was addressed under EQ X and EQ X, which considered, respectively, the procedure for selection of RRA experts and assessed the functioning of the Advisory Forum.
49- Ensure that agencies' reviews conclude on their rationale, effectiveness and cost-effectiveness (notably by taking into account the share of administrative versus operational staff)	Implemented	These aspects are included in the scope of the current evaluation.
50- Management boards to consider the need for ex-ante evaluation of activities/programmes	Partly implemented	There is no reference to considerations of ex-ante evaluations in the MB meeting minutes. There is no practice of requesting such, nor is there a mechanism for conducting such on ECDC's initiative and discussing them in the MB. The opportunity value studies carried out systematically by ECDC have some elements of ex-ante assessments, but they are done for the management of ECDC and are not shared with the MB.
<b>Internal audit</b> 54- Where existing, ensure Internal Audit Capabilities comply with the international standards	Not applicable	ECDC relies on the Internal Audit Service.
<b>Follow-up to evaluations</b> 55- Directors to prepare a roadmap with a follow-up action plan regarding the conclusions of retrospective evaluations, and report on progress bi-annually to the Commission	Implemented	An ECDC task force prepared a joint action plan (JAP) to address the recommendations arising from the 2 <sup>nd</sup> external evaluation
56- Ensure agencies' (management / executive) boards are adequately informed and involved	Implemented	The MB issued conclusions and recommendations based on the results of the 2 <sup>nd</sup> external evaluation
57- Multi-annual work programmes to include the actions necessary to respond to the outcome of overall evaluations	Implemented	The Annual programmes / SPD / Annual reports reflect on the follow-up of the 2 <sup>nd</sup> external evaluation
<b>Follow-up to internal and external audits</b> 58- Ensure agencies' (management / executive) boards are adequately informed and involved	Implemented	The Audit Committee receives and discusses the results of the audits of the Court of Auditors and IAS. All the reports are also made available to the MB intranet. The Audit Committee brings its recommendations to the MB.
59- Inform the partner DG and DG Budget of the results of audits of the European Court of Auditors, as well as of the measures taken to meet the recommendations of the discharge authority and those of the Court	Partly Implemented	The partner DG (DG SANTE) is part of the Audit Committee. DG Budget is not part of the Committee and there is no formal mechanism to inform them.

<b>Action</b>	<b>Status</b>	<b>Comment</b>
<b>Anti-fraud activities</b>	Implemented	Internal procedure on reporting irregularities exists.
61- Establish a system of protection for whistle-blowers and increase awareness of the different ways and channels for reporting serious wrongdoing		
62- Publicise the fraud prevention measures taken, and in particular, make information on OLAF's role and on the Fraud Notification System easily available on the Intra and Internet sites	Implemented	The MB decision concerning the terms and conditions on internal investigations related to fraud specifies OLAF's role and is available on ECDC's website
63- Raise the issue of fraud prevention measures in relevant Agency networks, in particular Inter-Agency Legal advisors Network	Implemented	ECDC is part of a standing working group on anti-fraud in the IALN (Inter-Agency Legal Network) which analyses emerging issues on a continuous basis and reports back to IALN meetings (twice a year).
64- Report and review all urgency-based exceptions and deviations from standard procedures during the last month of the financial year	Implemented	ECDC produces an end-of-year summary of exceptions for the Director.
65- Ensure that all the standard contracts contain the clauses that can constitute a solid legal basis, in particular in third countries, to enable OLAF to carry out checks and inspections	Implemented	Standard contracts include such a clause.
66- Include specific references to OLAF's role in procurement notices and grant award procedures	Implemented	Draft contracts specifying OLAF's role are part of the procurement procedure documents.
67- Inform newly recruited staff on OLAF's role	Implemented	In 2018, information sessions were held for staff in all Units to raise awareness about OLAF, the OLAF-coordinator, ECDC's anti-fraud strategy and ECDC's internal whistleblowing procedures. An information session on professional ethics is offered to all newcomers. Legal services and procurement also offers a training on "Fraud prevention and prevention of conflicts of interest in procurement" at least once annually (first session in 2018).
68- Refrain from carrying out investigations on facts liable to lead to an investigation by OLAF and communicate complete and timely information to OLAF to allow informed decisions on whether to launch investigations	Implemented	The IALN anti-fraud working group in 2017-2018 has established guidelines as to which preliminary steps an Agency may take without prejudicing OLAF's sole competence to carry out investigations, while allowing to secure relevant evidence. ECDC follows these guidelines.
<b>Implementation of the Financial Regulation rules</b>	Implemented	There is expenditure lifecycle training for newcomers and other dedicated training.
70- Encourage new administrative staff to attend either specific training on financial regulation and implementing rules (organised directly in the agencies) or general training on procurement procedures and other financial matters (provided by the Commission)		

<b>Action</b>	<b>Status</b>	<b>Comment</b>
71- Better exploit the possibility offered by the Framework Financial Regulation to "use joint procurement procedures with contracting authorities of the host Member State to cover its administrative needs"	Implemented	Over the past two years, ECDC has worked on establishing this possibility. ECDC has recently (30 April 2019) received a decision from the Swedish authorities confirming that it is eligible to participate in procurements organized by the "Kammarkollegiet". A first meeting took place on 25 June 2019 to discuss the practicalities of ECDC's possible future participation. It seems that, following a few further administrative steps, ECDC may be able to use joint procurements with the Swedish procurement agency in individual cases.
<b>Activity Based Budgeting (ABB) and Activity Based Management (ABM)</b>	Implemented	There was a report of the Agencies Network in 2016 on ABB practices – ECDC contributed to this report. In the last meeting of the Network in 2019 it was agreed to update the document.
74- Exchange best practices		
75- Pursue the development of an ABB/ABM toolbox	Not applicable	This is a recommendation for the Network rather than individual agencies. The Network developed this toolbox. ECDC was one of the more advanced agencies in the use of ABB and it was not relevant to take up the use of the toolbox.
<b>Budget process and execution</b>	Implemented	The final draft SPD is sent to the budget authorities (EP, EC, Council) and justifies requested resource allocation.
80- Justify requests with regard to [the agency's] budgets		
81- Improve internal planning and general revenue forecasting	Not applicable	ECDC does not generate revenue from its activities.
83- Improve the management of commitments to align them with real needs	Partly implemented	The management of commitments can be measured through the rate of outturn. The Centre has recorded significant outturns in the years under evaluation, but the trend has been towards reduction of these. (See EQ20).
84- Communicate to the budget authority any modification to budgets which does not require their approval, together with adequate justification	Implemented	The financing decision is public (part of SPD) and any revisions to it due to change to procurement plan or change of budget is approved by the MB.
<b>Human resources policy</b>	Implemented	The Multi-annual staff policy plan reflects on both temporary and contract agents.
88- Adaptations to the Multi-annual Staff Policy Plan template, in particular so that it provides a full picture of external staff		

# Appendix E: Stakeholder Mapping

The following table provides the updated stakeholder mapping for the purpose of the evaluation. Additional stakeholders are marked in red.

Stakeholder group	Sub-group	Previously-identified stakeholders	Suggested update
<b>Member States</b>		Advisory Forum, Management Board, National Focal Points, National Public Health Institutes	<p><b>Coordinating Competent Bodies:</b></p> <ul style="list-style-type: none"> <li>- <b>National Coordinators,</b></li> <li>- <b>National Focal Points</b></li> <li>- <b>Operational Contact Points</b></li> </ul> <p><b>Public Health Institutes which are not CCBs</b></p>
<b>European institutions</b>	<b>EP</b>	ENVI Committee	
	<b>The Council</b>	Health Group	<p><b>EPSCO</b> – due to the potential for ECDC to provide valuable input to the Council’s discussions on health and, in particular, their recent focus on strengthened cooperation against vaccine preventable diseases.</p> <p><b>Working Party on Public Health</b> – a preparatory body of the Council of the EU</p>
	<b>European Commission</b>	DG SANTE, DG NEAR, DG Research funded networks	<p><b>Joint Research Centre</b> – due to its work in related scientific areas and specifically the work of the European Microbiology Expert Group (EMEG) and ongoing cooperation with ECDC on MedISys</p> <p><b>Health Security Committee</b> – due to their work on national preparedness and response and health communication.</p> <p><b>DG ECHO</b> – due to their portfolio of health interventions in third countries, including in prevention and response to outbreaks/epidemics.</p> <p><b>European Medical Corps</b> – The Corps was set up in 2016 to <b>improve the EU’s preparedness and response to health emergencies</b></p> <p><b>DG DEVCO</b> – as part of its work with 3<sup>rd</sup> countries, DG DEVCO supports integrated approaches to Health Security and the implementation of the</p>

Stakeholder group	Sub-group	Previously-identified stakeholders	Suggested update
			<p><b>International Health Regulations (link is external)</b></p> <p><b>DG RTD</b> - due to their research in the area of health</p> <p><b>DG REGIO</b> – due to the potential for use of ESIF to finance public health measures in cohesion MS</p> <p><b>DG HOME</b> – due to the increasing links between migration and public health</p> <p><b>Eurostat</b> – due to role in collecting statistical data on health topics</p> <p><b>Scientific Committee on Consumer Safety (SCCS)</b> was set up in 2016 to provide scientific advice to DG SANTE<sup>14</sup> and plays a role in the implementation of Decision 1082/2013</p> <p><b>Scientific Committee on Health, Environmental and Emerging Risks (SCHEER)</b> was set up in 2016 to provide scientific advice to DG SANTE<sup>15</sup> and plays a role in the implementation of Decision 1082/2013</p>
	<b>Controlling Authorities</b>	ECJ, European Court of Auditors, OLAF, European Ombudsman, DG Budget, The Internal Audit Service, EP Budget Committee, DG BUDGET, European Data Protection Supervisor (EDPS)	
	<b>Agencies / Group I: Active cooperation</b>	EFSA, EMA, EMCDDA	
	<b>Agencies / Group II: Ad-hoc cooperation</b>	EU-OSHA, Europol, Frontex, FRA and EEA	<p><b>European Chemicals Agency (ECHA)</b> – due to their role in Decision 1082</p> <p><b>European Research Council (ERA)</b> – due to their role in Horizon 2020</p>
	<b>Other EUI and related</b>	Committee of the Regions, European Economic Social Committee, CHAFAE	<b>Innovative Medicines Initiative (IMI)</b> – due to its work in innovative medicines and fields related to ECDC’s work such as antimicrobial resistance.

<sup>14</sup> Commission Decision C(2015) 5383 on establishing scientific committees in the field of public health, consumer safety and the environment

<sup>15</sup> Commission Decision C(2015) 5383 on establishing scientific committees in the field of public health, consumer safety and the environment

Stakeholder group	Sub-group	Previously-identified stakeholders	Suggested update
<b>International organisations</b>		WHO, UNAIDS, GAVI The Vaccine Alliance, International Organization for Migration (IOM)	<p><b>The World Bank</b> – due to the potential to use it as a source of financial and technical assistance to improve health</p> <p><b>UNICEF</b> – due to their involvement in response activities and the potential to benefit from their experience from the measles initiative.</p> <p><b>UNOCHA</b> – due to their involvement in response activities.</p> <p><b>OECD</b> – due to their work on health policy and specifically antimicrobial resistance</p> <p><b>World Organisation for Animal Health (OIE)</b> - due to their role in implementing a One Health Approach</p> <p><b>Food and Agriculture Organization of the United Nations (FAO)</b> - due to their role in implementing a One Health Approach</p>
<b>NGOs</b>	<b>Group I: Active cooperation</b>	MSF, Red Cross	<b>Médecins du Monde</b> – due to their involvement in response activities
	<b>Group II: Ad-hoc cooperation</b>		<p><b>The Global Fund AIDS, tuberculosis and malaria</b><sup>16</sup> - due to the potential to use it as a source of finance to fight AIDS, tuberculosis and malaria epidemics.</p> <p><b>CEPI</b><sup>17</sup> - due to their work in developing vaccines to prevent deadly infectious diseases.</p> <p><b>Stop TB Partnership</b><sup>18</sup> - due to their work on tuberculosis and their widespread network of relevant international and local organisations active in the field.</p> <p><b>The European Consumer Organisation - BEUC</b> – due to their work in consumer health and food safety.</p> <p><b>European Institute of Women’s Health (EIWH)</b> – due to their work in the area of health, in particular reducing inequalities in health due to gender, age and socio economic status.</p> <p><b>Confederation of Meningitis Organisation (COMO)</b> – due to their initiative ‘The Life Course Immunisation Initiative’, which aims to tackle vaccine hesitancy.</p>

<sup>16</sup> <https://www.theglobalfund.org/en/>

<sup>17</sup> <http://cepi.net/>

<sup>18</sup> <http://www.stoptb.org/about/>

Stakeholder group	Sub-group	Previously-identified stakeholders	Suggested update
			<p><b>Emergent Disease Foundation (EDF)</b> – due to the potential to collaborate on emergent diseases, particularly from human-to-animal transmission.</p> <p><b>Institute for Health Metrics</b> – due to the use their health data.</p>
Learned societies	Group I	European Public Health Association (EUPHA), European Society of Clinical Microbiology and Infectious Diseases (ESCMID), Association of Schools of Public Health in the European Region (ASPHER), European Forum for Primary Care (EFPC), Standing Committee of European Doctors (CPME), The European Respiratory Society (ERS).	<p><b>Members of EUPHA at national level</b></p> <p><b>World Federation of Public Health Associations</b></p>
	Group II	European Society of Clinical Virology (ESCV), The European Society of Clinical Pharmacy (ESCP), Pharmaceutical Group of the European Union (PGEU), European Federation of Parasitologists (EFP), The European Federation of Nurses Associations (EFN), The European Paediatric Association (EPA), Council of European Dentists (CED), European Union of Medical Specialists (UEMS), International Union for Health Promotion and Education (IUPHE), European Federation of Allergy and Airways Diseases	<p><b>Vaccines Europe (VE)</b> – due to their research in and promotion of vaccines and, in particular, their online platform for discussion ‘Vaccines Today’.</p> <p><b>European Regional and Local Health Authorities (EUREGHA)</b> – due to the potential to collaborate with them in the area of health, in particular their work on reducing health inequalities between EU MS</p> <p><b>Other European Associations that are relevant for the area of Public Health, e.g:</b></p> <ul style="list-style-type: none"> <li>• The European Association of Hospital Pharmacists (EAHP).</li> <li>• European Public Health Alliance (EPHA),</li> <li>• European Medical Association</li> <li>• Federation of European Microbiological Societies (FEMS),</li> <li>• European Academy of Microbiologist (EAM).</li> <li>• The European Federation of Pharmaceutical Industries and Associations (EFPIA)</li> </ul>

Stakeholder group	Sub-group	Previously-identified stakeholders	Suggested update
		Patients' Associations, Coalition for Health.	
	<b>Other</b>	ECDC staff, Public health professionals, EU citizens, US CDC, Specialised media, Enlargement countries, ENP countries, Vaccine producers, contractors.	<p><b>Africa CDC – due to the growing cooperation with ECDC</b></p> <p><b>National research funding bodies – due to potential influence on research commissioning priorities at national level</b></p> <p><b>Global Health Security Initiative<sup>19</sup> – due to the possibility to collaborate on strengthening health preparedness and response to pandemic influenza.</b></p> <p><b>Human Vaccines Project<sup>20</sup> – due to the potential for collaboration on their work in biomedical research to develop vaccines capable of tackling a wide range of diseases, in particular using innovations in genomics, bioinformatics and AI.</b></p>

<sup>19</sup> <http://www.ghsi.ca/english/index.asp>

<sup>20</sup> <https://www.humanvaccinesproject.org/>

# Appendix F: Public Consultation Results

The open consultation was launched on 07 December 2018 through the EU Survey tool. A link to the consultation was published on a number of communication platforms:

- ECDC website, newsletter and Twitter account
- DG Health website and newsletter
- EU Health Policy Platform
- PwC EU Services LinkedIn

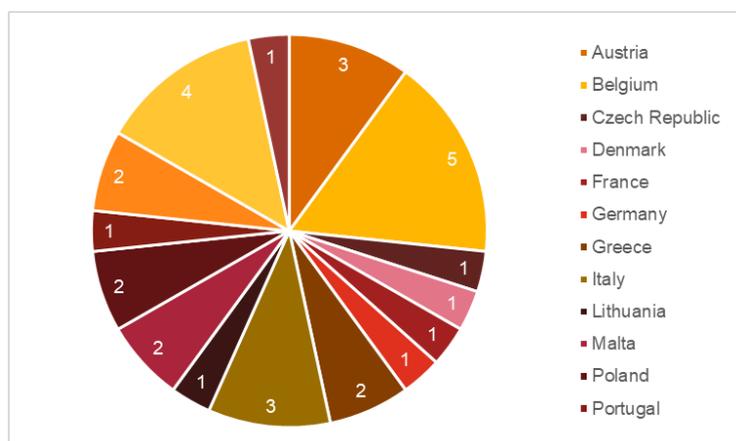
In addition, the evaluation team sent a direct email with an invitation to complete the consultation survey to 46 different organisations, which were identified by the stakeholder mapping exercise carried out for the inception report. These organisations also received two reminders to complete the consultation.

The consultation was open until 1 March 2019. The final number of complete responses to the public consultation was 30.

The top three stakeholder types were public authorities (12), EU citizens (5) and NGO's (4).

In total complete responses were provided from 15 different MS: Austria (3), Belgium (5), Czech Republic (1), Denmark (1), France (1), Germany (1), Greece (2), Italy (3), Lithuania (1), Malta (2), Poland (2), Portugal (1), Romania (2), Spain (4) and the United Kingdom (1). This is illustrated in Figure 1 below.

Figure 10 Country of origin (n=30)

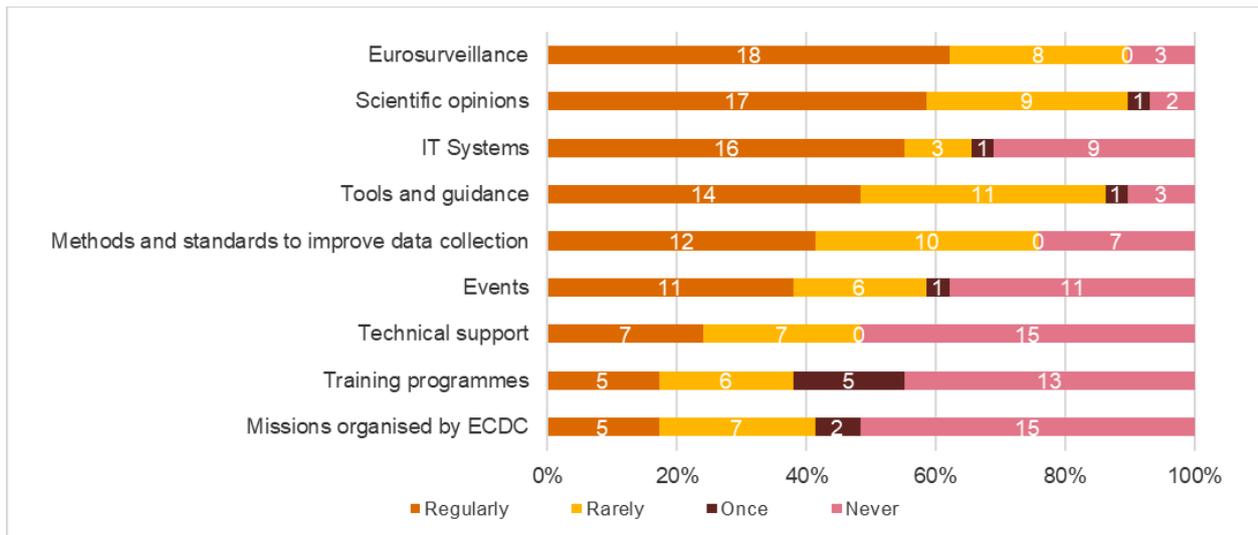


Given the small number of respondents, for most question it is not possible to draw our trends in the responses related to the respondents' stakeholder types or country of origin. Where evident, such trends are highlighted in the analysis.

More than two thirds of the respondents stated that the extent to which they are familiar with ECDC's role and activities is "high" to "very high". Out of the 30 responses only one response indicated that they are "1 - Not at all" familiar with the Centre's activities and roles.

The evaluation of the open consultation shows that the outputs of the Centre most frequently used and participated in are its scientific opinions, Eurosurveillance and the Centre's tools and guidance. This is elaborated on further below in Figure 11.

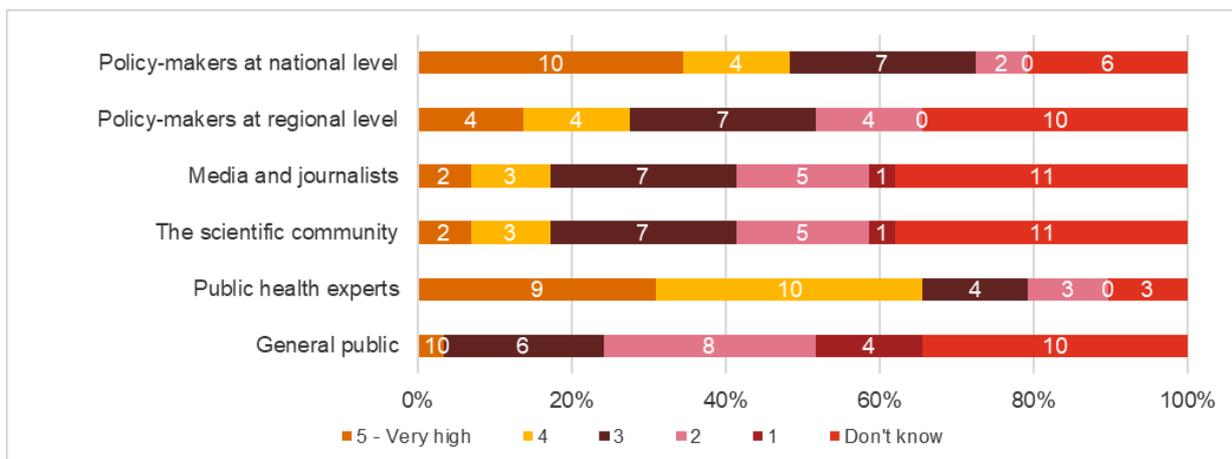
Figure 11 How frequently have you used the following ECDC outputs / participated in the following ECDC activities? (n=30)



### Relevance

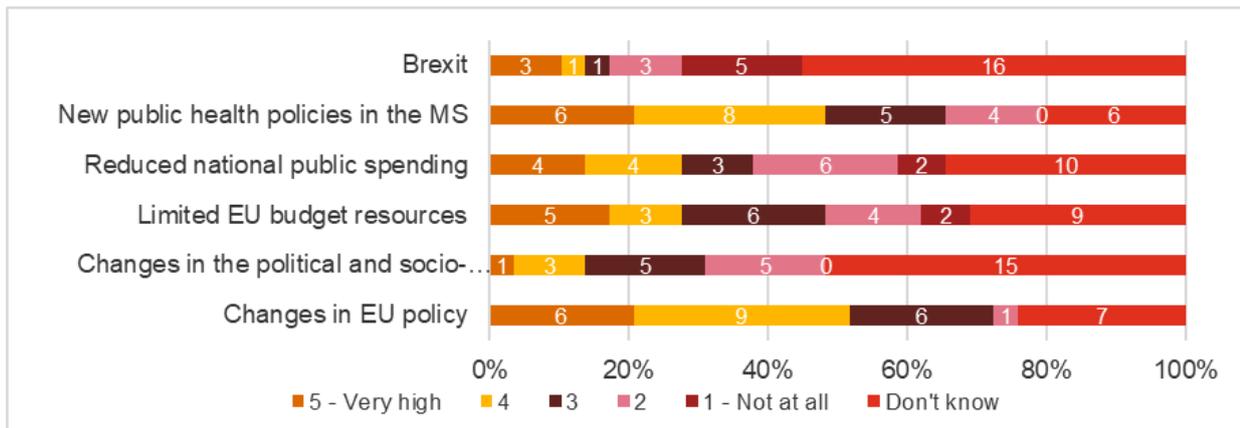
The analysis of the open consultation responses shows that ECDC’s tasks, products and services address the needs of policy-makers at national level the most. Half of the respondents state that the extent is “high” to “very high”. The general public’s needs are assessed to be addressed the least by the OPC respondents. This is confirmed by analysis of the response from this stakeholder group in the OPC – all stakeholders who responded in their capacity as “EU citizens” assessed it as low. Similar assessments were given by the NGO respondents.

Figure 12 To what extent have the ECDC’s tasks, products and services proved to be relevant to address the current needs (addressing climate change, antimicrobial resistance, vaccine hesitancy, globalisation) of the following stakeholders:



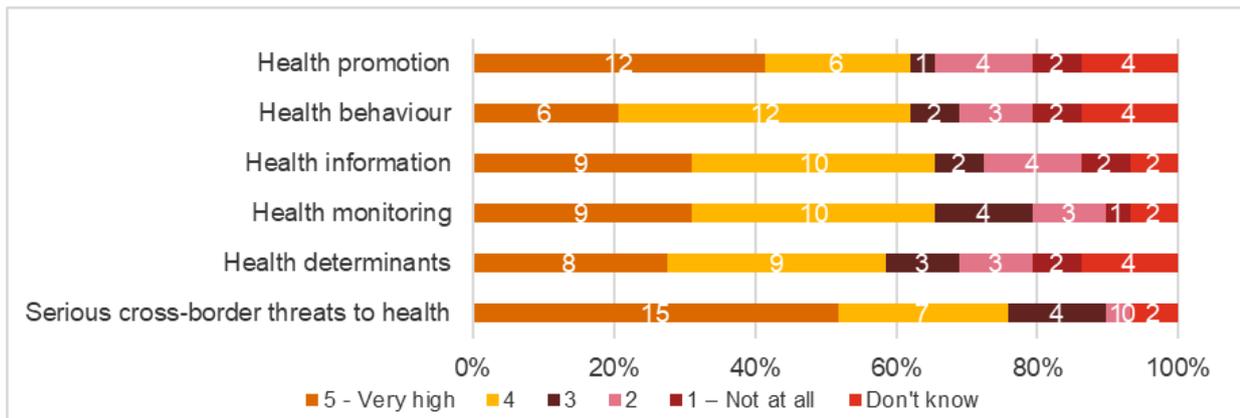
The surveyed stakeholders considered that the extent to which the level of ECDC’s current activities remain appropriate is especially high with respect to changes in EU policy and new public health policies in the MS. With regards to Brexit, the “don’t know” answers are particularly high, which is a result of the current uncertainty of the terms and condition under which the UK might leave the EU.

Figure 13 To what extent does the current level of ECDC activities remain appropriate, particularly with respect to the following areas/reasons:



More than ¼ of the complete answers state that the scope of the Centre’s mission should be extended further in the area of serious cross-border threats to health other than in the area of communicable diseases. 10/12 of the representatives of public health authorities were in favour of extension of the Centre’s mandate in this area. There was also a positive assessment of the need to extent the Centre’s mandate to the areas of health monitoring, health information and health behaviour, by more than 2/3<sup>rd</sup> of the respondents. No clear trends could be identified in the respondents by different types of stakeholder categories.

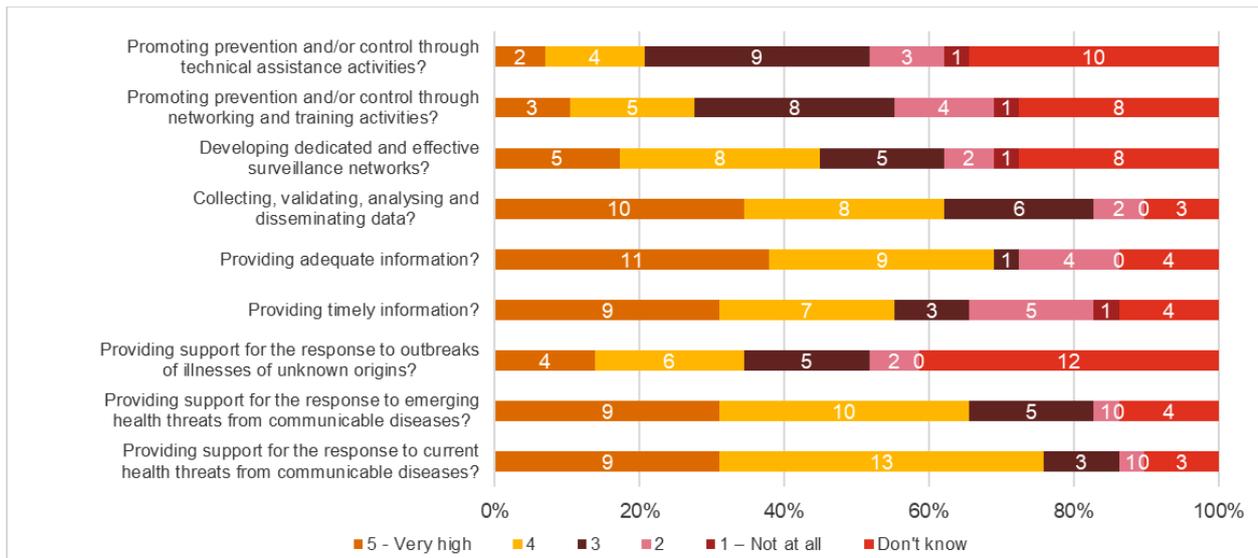
Figure 14 Do you think there is a need to extend the scope of the Centre’s mission in the areas of:



### Effectiveness

According to the surveyed stakeholders, the Centre has been most effective in providing support for the response to current health threats from communicable diseases, and providing adequate information. Almost ¼ of the respondents rated the extent to which the Centre contributes to these to be “high” to “very high”. 10/12 respondents from public health authorities gave a positive assessment of the aspects. The Centre’s efforts for preventing and/or controlling through technical assistance activities and through networking and training activities were rated the lowest, with only 1/3 of respondents stating it to be “high” to “very high”.

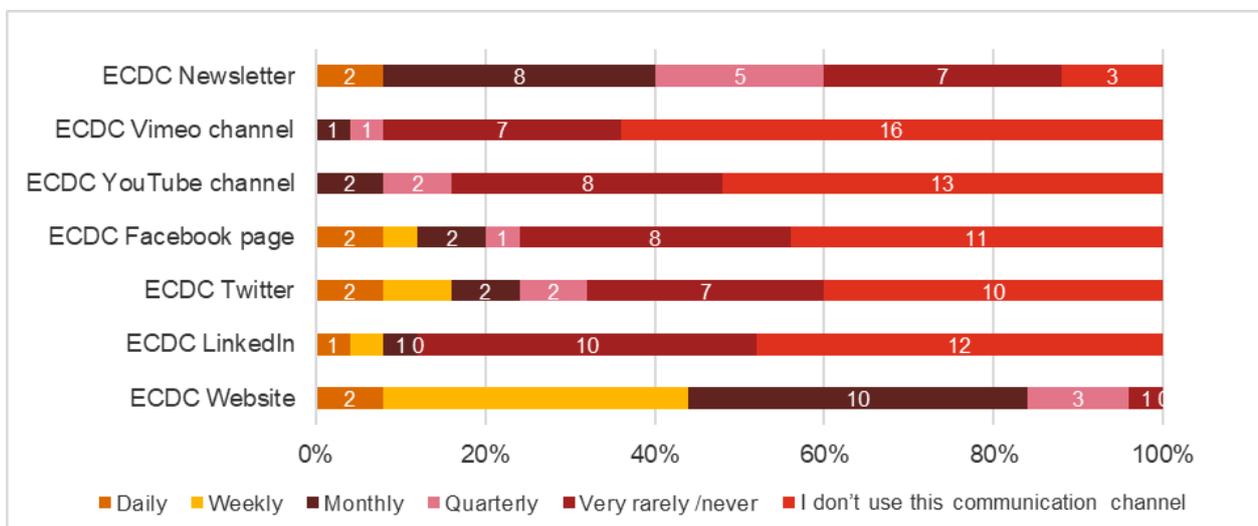
Figure 15 To what extent, in your opinion, has the ECDC been effective in:



90% of the respondents were able to provide examples of when they used information or products produced by ECDC and the resulting outcome. Examples given were, amongst others, the 'Climate change, impacts and vulnerabilities 2016' report by the European Environmental Agency and the use of ECDC material for the European Antimicrobial Awareness Day where information was considered to be highly informative and was hence transmitted to hospital pharmacists via EAHP's communication channels.

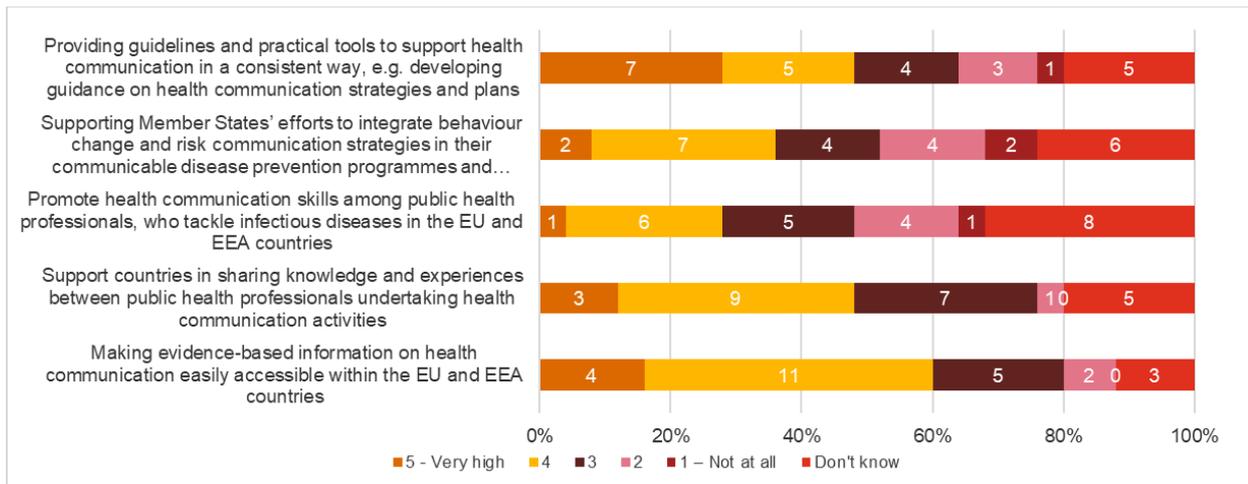
Half of the OPC respondents were familiar with ECDC's health communication activities. The most frequently used communication channels is by far ECDC's website. Almost half of the respondents indicated that they use the website at least once per week. ECDC's Twitter and Facebook Page are the second and third most frequently used communication channels.

Figure 16 How often (if at all) do you visit the following ECDC communication channels?



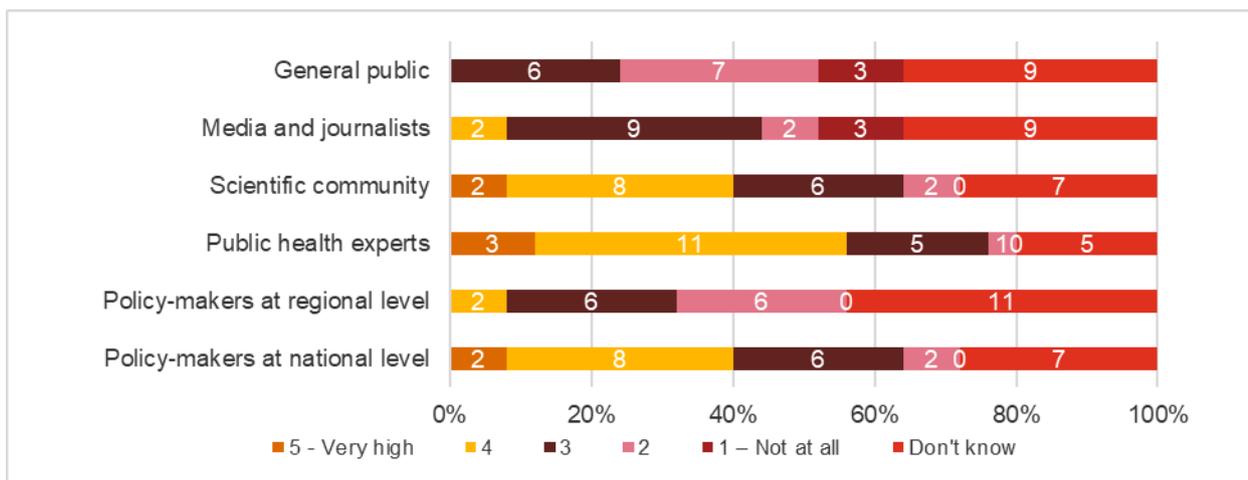
The respondents state that the Centre was overall successful in attaining its health communication objectives. Especially by making evidence-based information on health communication easily accessible within the EU and EEA countries and supporting countries in sharing knowledge and experiences between public health professionals who undertake health communication activities. Moreover, the provision of guidelines and practical tools to support health communication in a consistent way, e.g. developing guidance on health communication strategies and plans was rated to be successful by almost half of the respondents.

Figure 17 To what extent has ECDC been successful in attaining its health communication objectives?



The analysis shows that the stakeholder groups to which the Centre's communication activities are the most effective are public health experts, policy-makers at national level and the scientific community. The respondents state that communication activities are not effective towards the general public and the media. This is confirmed by the assessment of respondents who answered the OPC in their capacity as "EU citizens". One of the most frequently mentioned suggestions for improvement is to translate the reports and communication activities into more languages.

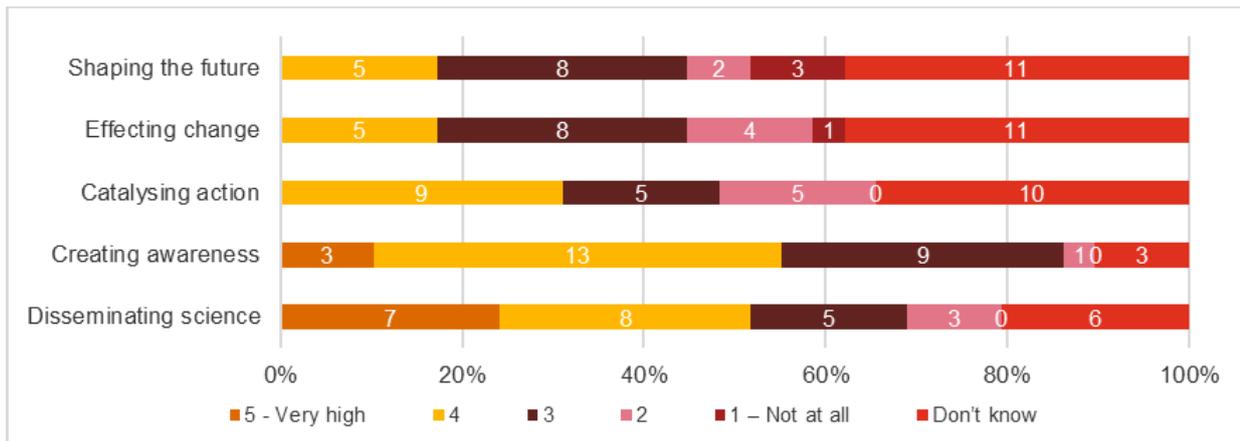
Figure 18 To what extent are ECDC's communication activities towards the following stakeholder groups effective?



Only 3 of the respondents (all representatives of public authorities) reported to have requested ad-hoc advice from the ECDC. All three respondents rated the timeliness and quality of the Centre's response to their ad hoc request to be excellent. The three ad-hoc requests were related to technical support given for the Zika virus, the haemolytic uraemic syndrome (HUM) outbreak and the BCG vaccination against TB.

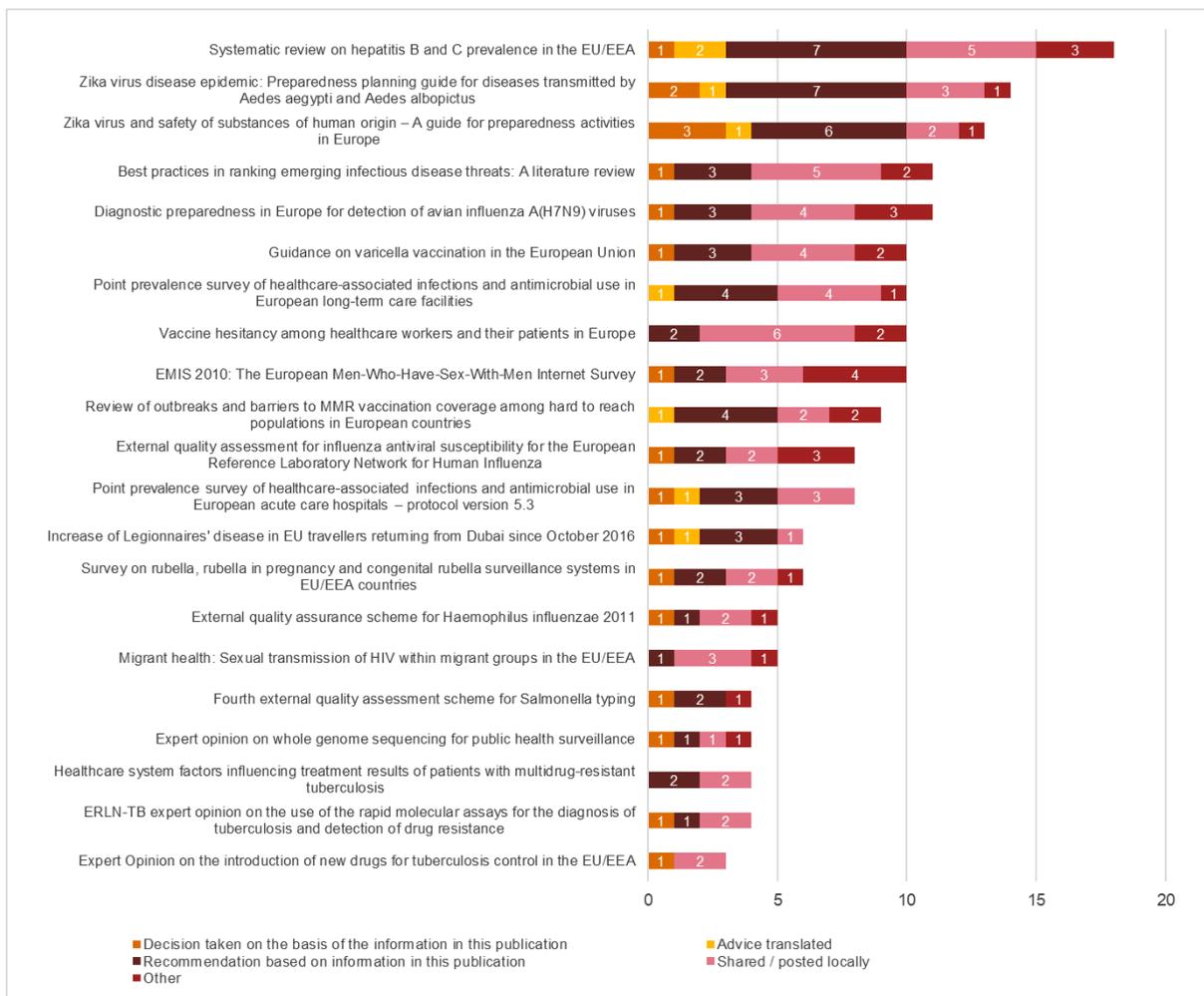
The respondents assessed that disseminating science and creating awareness were the primary achievements of ECDC's activities and their outputs, amongst the five categories illustrated below in Figure 19. Respondents representing public health institutions in particular gave a positive assessment of the awareness criterion.

Figure 19 To what extent do you believe that ECDC activities and their outputs have achieved the following:



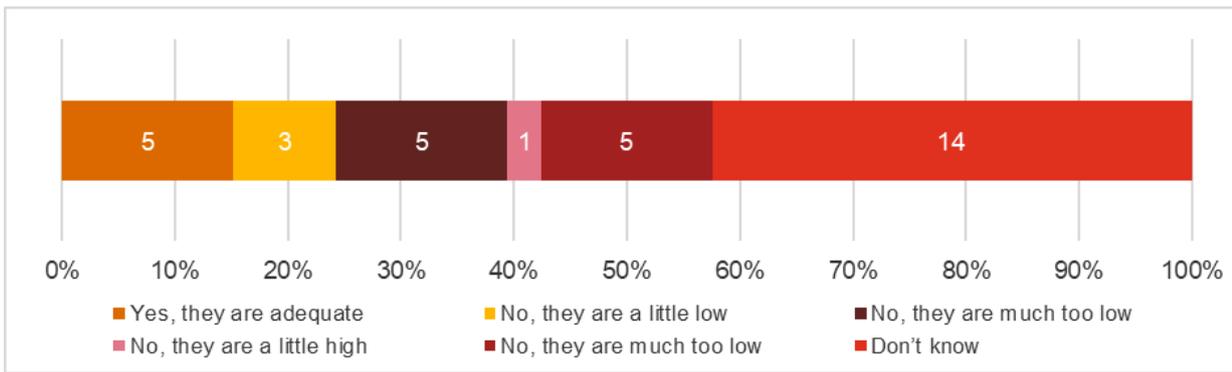
More than 1/3<sup>rd</sup> of the respondents state that the extent to which ECDC-funded surveys and studies have helped to improve MS capacities to strengthen surveillance, prevention and control of communicable diseases is “high” to “very high”. Amongst these the publication that has been the most frequently used and on which decisions were based, advice was translated and which were shared/posted locally was the ‘Systematic review on hepatitis B and C prevalence in the EU/EEA’. However it is significant to note that overall the majority of the publications were not used by the OPC respondents, see Figure 20.

Figure 20 Have you used any of the following ECDC publications? How?



Less than half of the OPC respondents were able to assess the extent to which ECDC’s resources are proportionate to the results achieved. The opinions expressed were split, with almost equal numbers assessing them to be adequate, too low or too high, as can be seen in Figure 21.

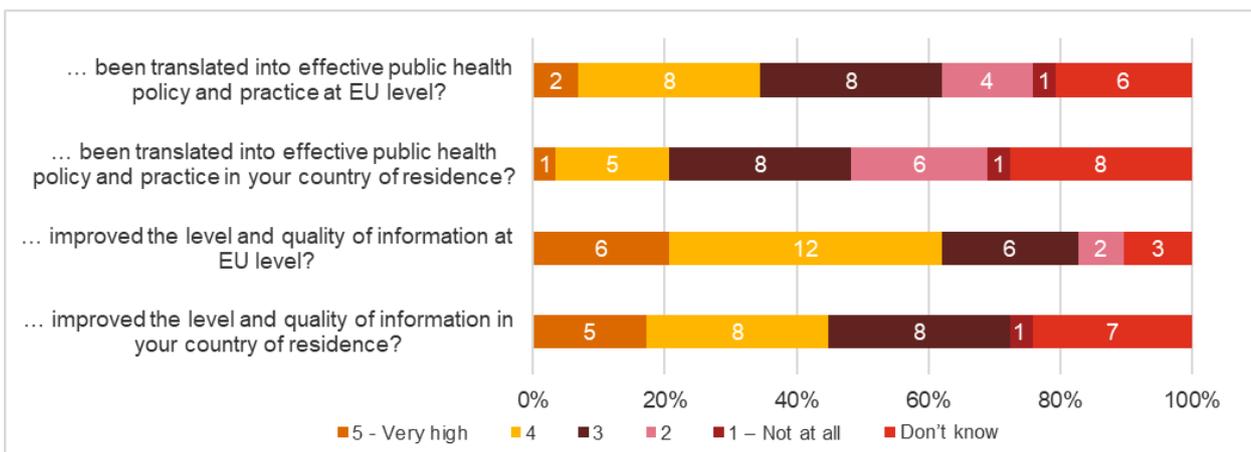
Figure 21 In your opinion, are the Centre's resources (budget of EUR 58 million and 263 staff members in 2017) proportionate, given the results achieved?



Almost 2/3<sup>rd</sup> of the OPC respondents believe that ECDC's outputs have improved the level and quality of information at the EU level (especially respondents who represent public health authorities), and almost half of the respondents believe that it has improved the level and quality of information in the stakeholders' country of residence. The assessment of the extent to which the outputs were translated into effective public health policy and practice are less positive, especially at national level.

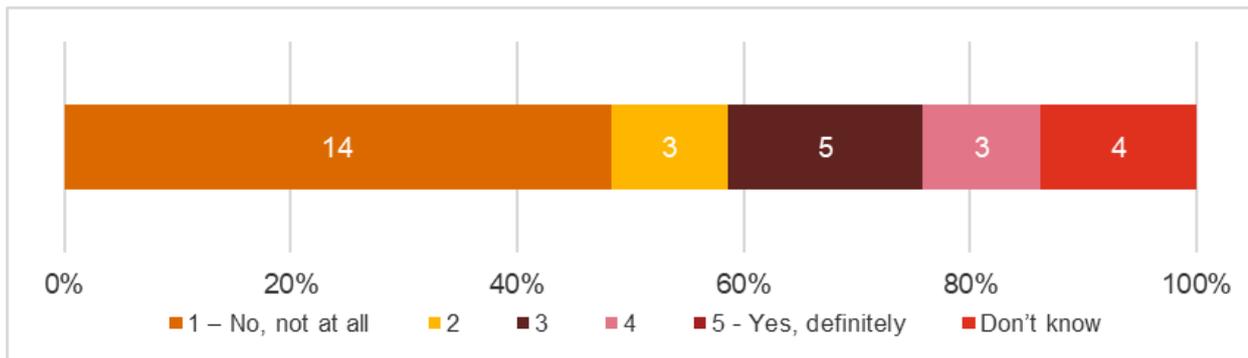
### Impact and Added value

Figure 22 To what extent have ECDC outputs ...



Only 1/3<sup>rd</sup> of the respondents (representing public health authorities) were aware of the additional work done by ECDC resulting from Decision No 1082/2013/EU on cross border threats. These respondents 90% rated the extent to which the additional work done by ECDC as a result of the Decision are useful and beneficial to be "high" to "very high". The respondents explain that ECDC is providing support to establish a more coordinated approach towards serious cross-border health threats amongst EU MS. In particular, the work done by the Centre on surveillance and early warning are highlighted as being helpful and of use.

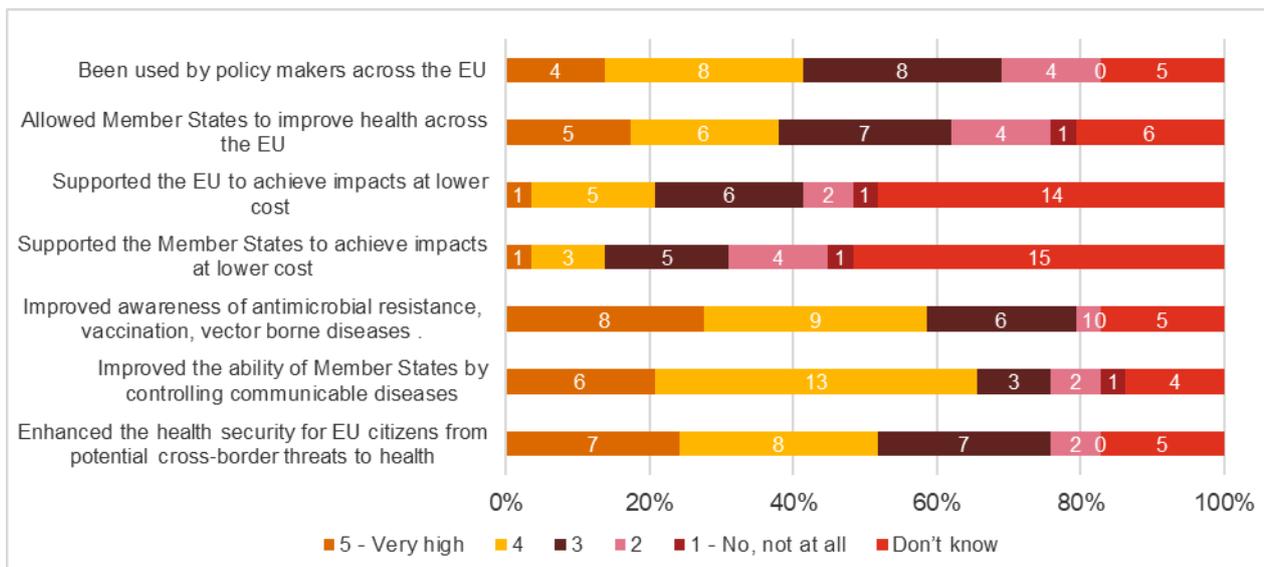
Figure 23 Do you think cross-border public health threats could be tackled just as well or even better at national level without involving ECDC?



As illustrated above in Figure 23, almost 2/3<sup>rd</sup> do not believe that cross-border public health threats could not be tackled just as well at national level without involving ECDC. Stakeholders argue that in the area of cross-border health threats, the coordination and aggregation of public health information are essential. Hence, ECDC’s provision of coordination and monitoring activities between the MS are key.

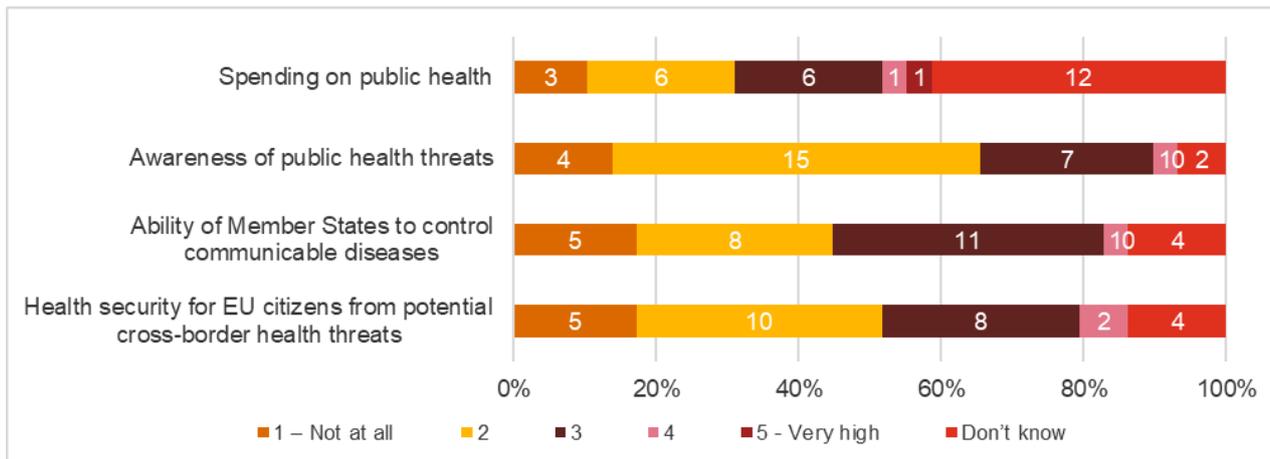
More than 2/3<sup>rd</sup> of the respondents state that ECDC’s activities and outputs have improved the MS ability to control communicable diseases. The assessment of this question by representatives of public health authorities was particularly high. Almost 2/3<sup>rd</sup>s of the respondents state that the Centre’s outputs have improved awareness of AMR, vaccination and vector borne diseases. More than half of the respondents explain that the outputs have enhanced the health security for EU citizens from potential cross-border threats to health.

Figure 24 To what extent do you think the ECDC’s activities and outputs have:



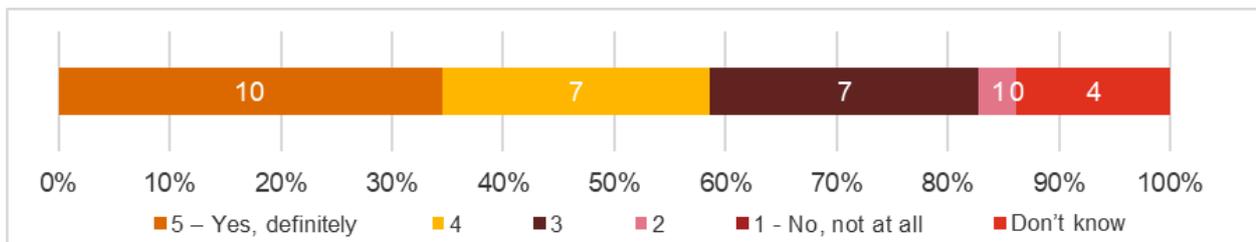
The respondents were asked to state the extent to which they believe it would be possible to have the same EU-wide level of spending on public health, awareness of public health threats, ability of MS to control communicable disease and health security for EU citizens from potential cross-border health threats, had the Centre not existed. As can be seen below in Figure 25. The awareness of public health threats and the health security for EU citizens from potential cross-border health threats were identified to be the least likely to exist to the same extent had the Centre not existed. The respondents explain that especially the awareness campaign on antibiotics and the flu are highly relevant and help significantly.

Figure 25 Had the Centre not existed, to what extent do you believe it would have been possible to have the same EU-wide level of:



Of the respondents, almost 2/3<sup>rd</sup> consider ECDC to be a model organization for the coordination and surveillance, alert and preparedness.

Figure 26 Do you consider the ECDC a model organisation for coordination and surveillance, alertness and preparedness? Please select one answer:

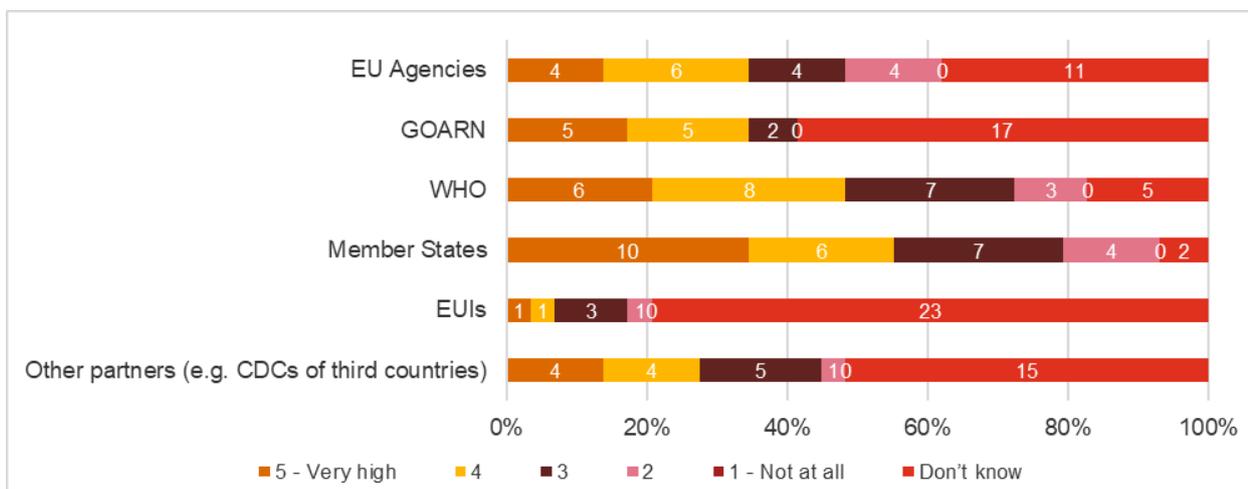


### Coordination and cooperation

The respondents state that particularly on the MS level and the WHO level the Centres activities are complementary (not overlapping). Overall, the “Don’t know” answers to the questions on complementarity and coordination are high. This is evidence for the lack of awareness of respondents about the Centre’s activities, which align with the respective bodies.

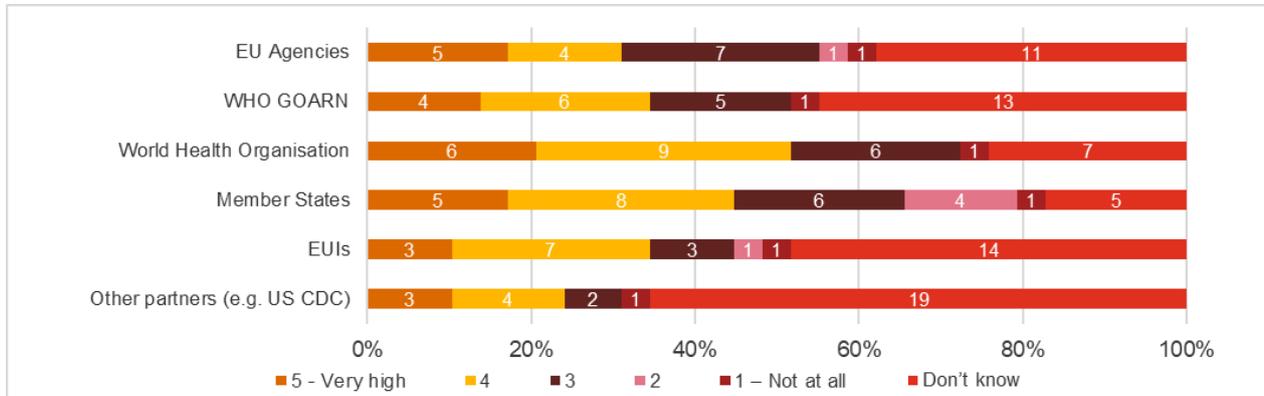
More than half of the respondents rate the extent of complementarity between the Centre and the MS and WHO, to be “high” to “very high”.

Figure 27 To what extent do you think the activities of ECDC are complementary (not overlapping) to those of:



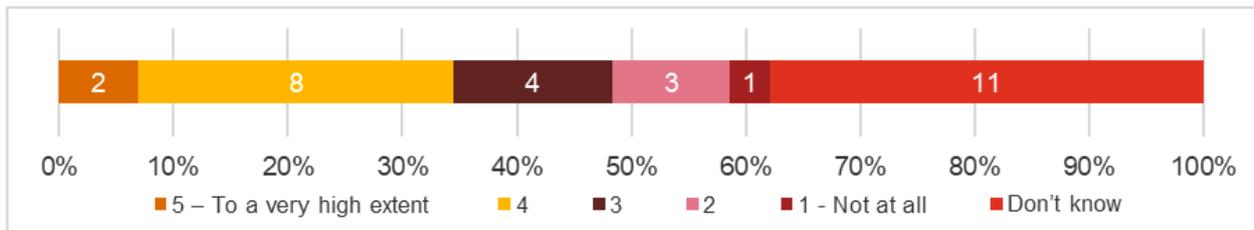
The respondents identify the highest coordination (working towards the same objectives) to be between the Centre and the WHO and the Member States, with about half of the respondents rating these as “high” to “very high”.

Figure 28 To what extent do you think the activities of ECDC are coordinated (working towards the same objectives) with those of:



More than 1/3<sup>rd</sup> of the respondents rate the extent to which the activities of the Centre are coherent with the One Health approach. Respondents suggest that more emphasis should be put on the environmental component of the One Health Approach, which should be taken into account more by the Centre. Further suggestions for improvement are to incorporate more health professionals e.g. nurses, midwives which various ranges of expertise to achieve a more holistic understanding of public health across the EU.

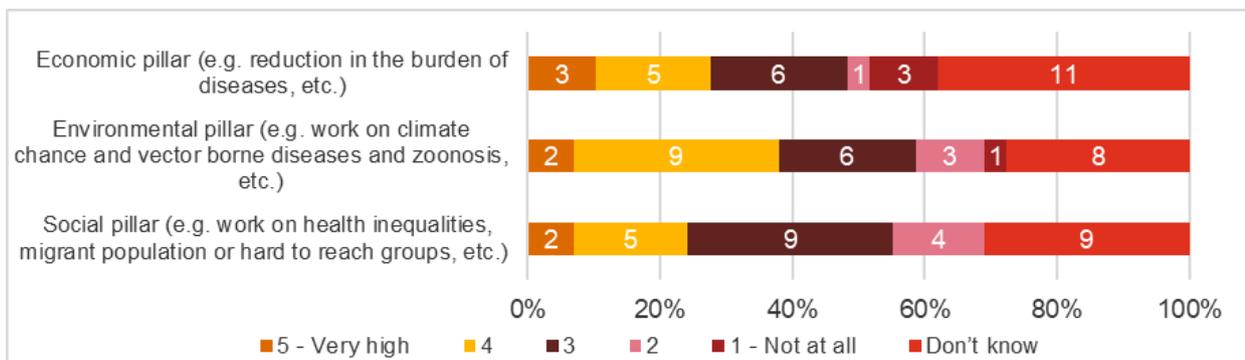
Figure 29 To what extent in your opinion activities of ECDC are coherent with the One Health approach?



The OPC respondents were asked to give their opinion on the extent to which ECDC’s activities are coherent with the EU’s work on the sustainable development across the economic, environmental and social pillar. The environmental pillar was identified by the respondents to be the most coherent with the ECDC’s activities, more than 1/3<sup>rd</sup> of the respondents rated it to be “high” to “very high”.

However, it is significant to note that almost 1/3<sup>rd</sup> of the respondents answered “don’t know” to either pillar.

Figure 30 To what extent, in your opinion, are ECDC’s activities coherent with the EU’s work on the sustainable development across the following pillars:



Among the areas in which ECDC supports innovation, E-Health and laboratories received the highest assessment by the OPC respondents (about 40% rated ECDC’s efforts on these positively). A fourth of the

respondents rated ECDC's effectiveness in translating innovation in Big Data positively. Only a third of the respondents were familiar with ECDC's work on Whole Genome Sequencing (WGS), but most of these gave it a positive assessment.

Figure 31 To what extent do you think ECDC is able to translate innovation in the following areas into its activities:

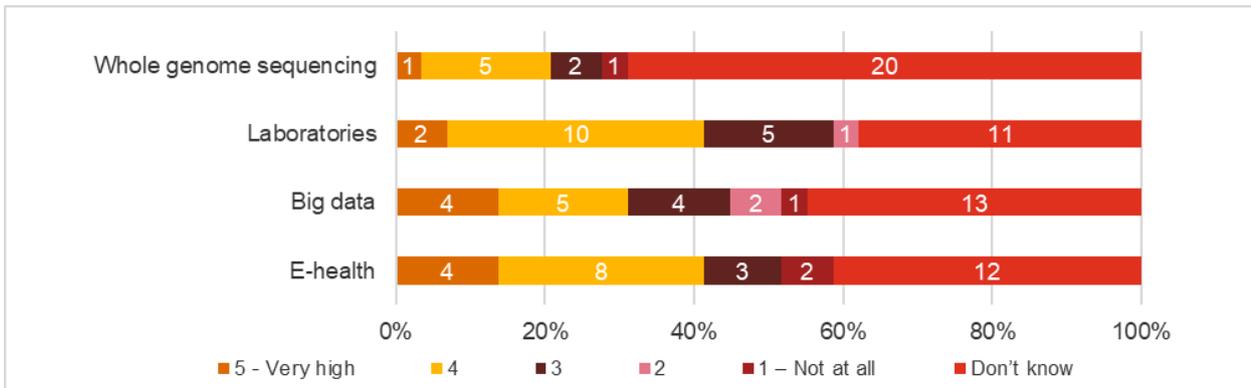
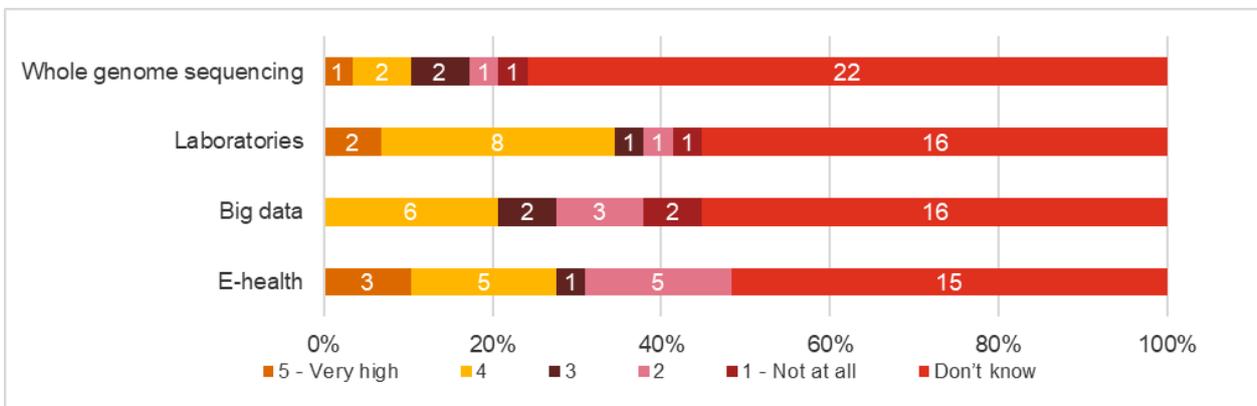


Figure 32 To what extent do you think ECDC makes its innovations in the following areas accessible to Member States:



# Appendix G: Bibliography

- African Union. 'Declaration of the Special Summit of African Union on HIV/AIDS, Tuberculosis and Malaria', 2013. Available at: <http://africacdc.org/resources/continental-commitments/continental-commitments/abuja-declaration-on-hiv-in-english-as-of-25-july-2013/download>
- Antibiotic Guardian Website. Available at: <https://antibioticguardian.com/>
- Ammon, A. (2015). From SARS to Ebola – 10 years of disease prevention and control at ECDC. *Eurosurveillance*, 20(37). doi: 10.2807/1560-7917.es.2015.20.37.30016
- Bajoriniene A, Leitmeyer KC, Struelens MJ, Kokki MH and the Observers and Alternate Observers to the ECDC National Microbiology Focal Points in Western Balkan Countries (2019) Investing in Public Health Microbiology Laboratories in Western Balkan Countries Enhances Health Security From Communicable Disease Threats in Europe. *Front. Public Health* 7:8. doi: 10.3389/fpubh.2019.00008
- Bijkerk, Monnier, Fanoy, et.al. 'ECDC Round Table Report and ProMed-mail most useful international information sources for the Netherlands Early Warning Committee. *Eurosurveillance*, 22(14)', 2017. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5388122/>
- Beach, D. (2017, January 25). Process-Tracing Methods in Social Science. *Oxford Research Encyclopedia of Politics*. Ed. Retrieved 9 Apr. 2019
- Bogaert, Van Oyen, for BRIDGE Health. 'An integrated and sustainable EU health information system: national public health institutes' needs and possible benefits. *Arch Public Health*. 2017;75:3', 2017.
- Bridge Health. Concept Paper Technical Report BRIDGE Health N° WP1\_2016\_03', 2016. Available at: [https://www.bridge-health.eu/sites/default/files/Technical%20Report%20WP1\\_2016\\_03\\_Concept%20Paper\\_final\\_V2\\_0.pdf](https://www.bridge-health.eu/sites/default/files/Technical%20Report%20WP1_2016_03_Concept%20Paper_final_V2_0.pdf)
- Chen, Zhiyun, and Qiushui He. "Immune persistence after pertussis vaccination." *Human vaccines & immunotherapeutics* vol. 13,4 ( ): 744-756. doi:10.1080/21645515.2016.1259780
- Chrodis Joint Action (2018) Health Promotion and Primary Prevention in 21 European Countries A Comparative Overview of Key Policies, Approaches, Examples of Good Practice, and Gaps and Needs. Available at <http://chrodis.eu/wp-content/uploads/2019/03/final-chrodis-plus-country-questionnaire-overview-report.pdf>
- Compare Europe Website. Available at: <http://www.compare-europe.eu/>
- Connecting Organizations for Regional Disease Surveillance. 'Mediterranean Programme for Intervention Epidemiology Training as an approach to addressing international health risks in the Mediterranean Region', 2018. Available at: <https://www.cordsnetwork.org/conference-bangkok-2018/>
- Council of the European Union. 'Council conclusions to contribute towards halting the rise in Childhood Overweight and Obesity (2017/C 205/03)', 2017.
- Council of the European Union. 'Council conclusions: towards modern, responsive and sustainable health systems (2011/C 202/04).', *Off J Eur Union*, 2011, vol. 54', 2011.
- Economisti Associati, et.al. 'The second independent evaluation of the ECDC in accordance with its Founding Regulation (European Parliament and Council Regulation (EC) no 851/2004'. Available at: <https://ecdc.europa.eu/sites/portal/files/media/en/aboutus/Key%20Documents/ECDC-external-evaluation-2014.pdf>
- Ephesus. 'Evaluation of EU/EEA surveillance of antimicrobial consumption (ESAC-Net)'.  
Ephesus. 'Evaluation report on European Legionnaires Disease Surveillance System'.
- Epicconcept. 'Draft Report for the evaluation of the European Legionnaires Disease Surveillance System. Document number: AF54/08', 2018.
- EpiConcept. 'Evaluation of EU/EEA public health surveillance systems (EPHESUS) - Report for the evaluation of the European Antimicrobial Consumption Surveillance System (ESAC-Net)', 2019.
- European Centre for Disease Control Prevention and Control. 'Draft report for the evaluation of the European Food- and Waterborne Disease Surveillance System for campylobacteriosis, listeriosis, non-typhoidal salmonellosis, shigellosis, STEC/VTEC infection, hepatitis A, and yersiniosis (FWD-7). Document number: AF54/07', 2018.
- European Centre for Disease Control Prevention and Control. 'ECDC Vaccine Scheduler'. Available at: <https://ecdc.europa.eu/en/publications-data/ecdc-vaccine-scheduler>
- European Centre for Disease Control Prevention and Control. 'EU Laboratory Capability Monitoring System (EULabCap)', 2016. Available at: [https://ecdc.europa.eu/sites/portal/files/documents/2016\\_EULabCap\\_EUreport\\_web\\_300418\\_final.pdf](https://ecdc.europa.eu/sites/portal/files/documents/2016_EULabCap_EUreport_web_300418_final.pdf)
- European Centre for Disease Control Prevention and Control. 'European Immunization Week campaign' Available at: <https://ecdc.europa.eu/en/immunisation-and-vaccines/communication-activities/eiw>
- European Centre for Disease Control Prevention and Control. 'Rapid risk assessment: Carbapenem-resistant *Acinetobacter baumannii* in healthcare settings', 2016. Available at: <https://ecdc.europa.eu/en/publications-data/rapid-risk-assessment-carbapenem-resistant-acinetobacter-baumannii-healthcare>

European Centre for Disease Control Prevention and Control. 'Rapid risk assessment: Carbapenem-resistant *Acinetobacter baumannii* in healthcare settings', 2016. Available at: <https://ecdc.europa.eu/en/publications-data/rapid-risk-assessment-carbapenem-resistant-acinetobacter-baumannii-healthcare>

European Centre for Disease Control Prevention and Control. 'Rapid risk assessment: Carbapenem-resistant Enterobacteriaceae'. Available at: <https://ecdc.europa.eu/en/publications-data/rapid-risk-assessment-carbapenem-resistant-enterobacteriaceae-14-april-2016>

European Centre for Disease Control Prevention and Control. 'Rapid Risk Assessment: Plasmid-mediated colistin resistance in Enterobacteriaceae', 2016. Available at: <https://ecdc.europa.eu/en/publications-data/rapid-risk-assessment-plasmid-mediated-colistin-resistance-enterobacteriaceae-15>

European Centre for Disease Control Prevention and Control. 'Rapid Risk Assessment: Crimean–Congo haemorrhagic fever in Spain'. Available at: <https://ecdc.europa.eu/sites/portal/files/media/en/publications/Publications/crimean-congo-haemorrhagic-fever-spain-risk-assessment.pdf>

European Centre for Disease Control Prevention and Control. 'Technical Report: Designing and implementing an immunisation information system', 2018. Available at: [https://ecdc.europa.eu/sites/portal/files/documents/designing-implementing-immunisation-information-system\\_0.pdf](https://ecdc.europa.eu/sites/portal/files/documents/designing-implementing-immunisation-information-system_0.pdf)

European Centre for Disease Control Prevention and Control. 'Technical Report: Immunisation information systems in the EU and EEA', 2017. Available at: <https://ecdc.europa.eu/sites/portal/files/documents/immunisation-systems.pdf>

European Centre for Disease Control Prevention and Control. 'Vaccine European New Integrated Collaboration Effort'. Available at: <http://venice.cineca.org/index.html>

European Centre for Disease Prevention and Control Website. 'Management Board'. Available at: <https://ecdc.europa.eu/en/about-ushow-we-are-governed/management-board>

European Centre for Disease Prevention and Control Website. 'Observers'. Available at: <https://ecdc.europa.eu/en/about-us/governance/advisory-forum/observers>

European Centre for Disease Prevention and Control. 'Zika virus and safety of substances of human origin – A guide for preparedness activities in Europe', 2017. Available at: <https://ecdc.europa.eu/en/publications-data/zika-virus-and-safety-substances-human-origin-guide-preparedness-activities-0>

European Centre for Disease Prevention and Control. '2015 Work Programme Priorities: the next steps, Document number: MB31/7'.

European Centre for Disease Prevention and Control. 'Advisory Forum Extraordinary Audio Conference (Document AF44/04)', 2016. Available at: <https://ecdc.europa.eu/en/publications-data/extraordinary-audio-conference-ecdc-advisory-forum-4-february-2016>

European Centre for Disease Prevention and Control. 'Advisory Forum meeting minutes (Document numbers: AF34-54)'. Available at: <https://ecdc.europa.eu/en/about-ushow-we-are-governed/advisory-forum/minutes>

European Centre for Disease Prevention and Control. 'Africa CDC Director Dr Nkengasong visits ECDC', 2018. Available at: <https://ecdc.europa.eu/en/news-events/africa-cdc-director-dr-nkengasong-visits-ecdc>

European Centre for Disease Prevention and Control. 'Annual Report of the Director – 2013', 2014. Available at: <https://ecdc.europa.eu/en/publications-data/annual-report-director-2013>

European Centre for Disease Prevention and Control. 'Annual report of the Director – 2013', 2014. Available at: <https://ecdc.europa.eu/en/publications-data/annual-report-director-2013>

European Centre for Disease Prevention and Control. 'Annual Report of the Director – 2014', 2015. Available at: <https://ecdc.europa.eu/en/publications-data/annual-report-director-2014>

European Centre for Disease Prevention and Control. 'Annual Report of the Director – 2015', 2016. Available at: <https://ecdc.europa.eu/en/publications-data/annual-report-director-2015>

European Centre for Disease Prevention and Control. 'Annual Report of the Director – 2016', 2017. Available at: <https://ecdc.europa.eu/en/publications-data/annual-report-director-2016>

European Centre for Disease Prevention and Control. 'Annual Report of the Director – 2017', 2018. Available at: <https://ecdc.europa.eu/en/publications-data/annual-report-director-2017>

European Centre for Disease Prevention and Control. 'Annual report of the Director – 2017', 2018. Available at: <https://ecdc.europa.eu/en/publications-data/annual-report-director-2017>

European Centre for Disease Prevention and Control. 'Annual Report of the Director', 2015. Available at: <https://ecdc.europa.eu/sites/portal/files/media/en/publications/Publications/annual-report-director-2015.pdf>

European Centre for Disease Prevention and Control. Catalogue of interventions addressing vaccine hesitancy, 2017. Available at: <https://ecdc.europa.eu/sites/portal/files/documents/Catalogue-interventions-vaccine-hesitancy.pdf>

European Centre for Disease Prevention and Control. 'Communication toolkit on antibiotic use: How to promote prudent antibiotic use with focus on self-medication with antibiotics', 2014. Available at: <https://ecdc.europa.eu/en/publications-data/communication-toolkit-antibiotic-use-self-medication>

European Centre for Disease Prevention and Control. 'Communication toolkit on tick-borne diseases and preventive measures', 2015. Available at: <https://ecdc.europa.eu/en/publications-data/communication-toolkit-tick-borne-diseases-and-preventive-measures>

European Centre for Disease Prevention and Control. 'Disease and laboratory networks'. Available at: <https://ecdc.europa.eu/en/about-us/who-we-work/disease-and-laboratory-networks>

European Centre for Disease Prevention and Control. 'Draft European Centre for Disease Prevention and Control Single Programming Document 2017-2019 MB37/07'.

European Centre for Disease Prevention and Control. 'ECDC Chief Scientist's Annual Report on the work of the Advisory Forum (Document number: MB42/13)'.

European Centre for Disease Prevention and Control. 'ECDC Chief Scientist's Annual Report on the work of the Advisory Forum in 2018 (Document number: MB45/xx)'.

European Centre for Disease Prevention and Control. 'ECDC Communication Strategy 2020', 2016. Available at: <https://ecdc.europa.eu/en/publications-data/ecdc-communication-strategy-2020>

European Centre for Disease Prevention and Control. 'ECDC Communication Strategy'. Available at: <https://ecdc.europa.eu/sites/portal/files/documents/CommunicationStrategyMB38-2016-2020.pdf>

European Centre for Disease Prevention and Control. 'ECDC International Relations Policy 2014-2020', 2014. Available at: <https://ecdc.europa.eu/sites/portal/files/media/en/publications/Publications/international-relations-policy-2014-2020.pdf>

European Centre for Disease Prevention and Control. 'ECDC partnerships'. Available at: <https://ecdc.europa.eu/en/about-us/partnerships-and-networks/ecdc-partnerships>

European Centre for Disease Prevention and Control. 'ECDC Single Programming Document 2018-2020', 2017. Available at: <https://www.ecdc.europa.eu/en/publications-data/ecdc-single-programming-document-2018-2020>

European Centre for Disease Prevention and Control. 'European Centre for Disease Prevention and Control Management Board MB28-43'. Available at: <https://ecdc.europa.eu/en/about-us/governance/management-board/minutes>

European Centre for Disease Prevention and Control. 'European Centre for Disease Prevention and Control Threat Assessment - Ash cloud following volcanic eruption in Iceland', 2010.

European Centre for Disease Prevention and Control. 'European Centre for Disease Prevention and Control Threat Assessment - Russian Forest Fires', 2010.

European Centre for Disease Prevention and Control. 'European network for sharing data on the geographic distribution of arthropod vectors, transmitting human and animal disease agents (VectorNet)'. Available at: <https://ecdc.europa.eu/en/about-us/partnerships-and-networks/disease-and-laboratory-networks/vector-net>

European Centre for Disease Prevention and Control. 'Evaluation - European Centre for Disease Prevention and Control Ebola deployment in Guinea'. Available at: <https://ecdc.europa.eu/en/publications-data/evaluation-ecdc-ebola-deployment-guinea>

European Centre for Disease Prevention and Control. 'Evaluation of ECDC Ebola deployment in Guinea - Final report', 2017. Available at: <https://ecdc.europa.eu/sites/portal/files/documents/Ebola-deployment-Guinea-evaluation.pdf>

European Centre for Disease Prevention and Control. Final Report of European Centre for Disease Prevention and Control Stakeholder Survey, MB34/17, 2015.

European Centre for Disease Prevention and Control. Final Report of European Centre for Disease Prevention and Control Stakeholder Survey, MB37/16, 2015.

European Centre for Disease Prevention and Control. 'Financial Regulation of the European Centre for Disease Prevention and Control and its implementing rules adopted by the Management Board on 28 March 2014', 2014. Available at: <https://www.ecdc.europa.eu/en/publications-data/ecdc-financial-regulation-and-its-implementing-rules>

European Centre for Disease Prevention and Control. 'ICT Report 2018: Use of IT Products v 1.1', 2018.

European Centre for Disease Prevention and Control. 'Immunisation information systems - useful tools for monitoring vaccination programmes in EU/EEA countries', 2017. Available at: <https://ecdc.europa.eu/en/publications-data/immunisation-information-systems-useful-tools-monitoring-vaccination-programmes>

European Centre for Disease Prevention and Control. 'Impact of infectious diseases on population health using incidence-based disability-adjusted life years (DALYs): Results from the burden of communicable diseases in Europe study, European Union and European economic countries, 2009 to 2013', 2018.

European Centre for Disease Prevention and Control. 'Let's talk about hesitancy paper', 2016. Available at: <https://ecdc.europa.eu/en/publications-data/lets-talk-about-hesitancy-enhancing-confidence-vaccination-and-uptake>

European Centre for Disease Prevention and Control. 'Long-term surveillance strategy (revised), 2014-2020', 2018. Available at: <https://ecdc.europa.eu/en/publications-data/long-term-surveillance-strategy-2014-2020-revised>

European Centre for Disease Prevention and Control. 'Long-term surveillance strategy 2014-2020', 2013. Available at: <https://ecdc.europa.eu/en/publications-data/long-term-surveillance-strategy-2014-2020>

European Centre for Disease Prevention and Control. 'Monitoring the use of whole-genome sequencing in infectious disease surveillance in Europe 2015-2017 technical report', 2018. Available at: <https://ecdc.europa.eu/en/publications-data/monitoring-use-whole-genome-sequencing-infectious-disease-surveillance-europe>

European Centre for Disease Prevention and Control. 'Public health guidance on active case finding of communicable diseases in prison settings', 2018. Available at: <https://ecdc.europa.eu/en/publications-data/public-health-guidance-active-case-finding-communicable-diseases-prison-settings>

European Centre for Disease Prevention and Control. 'Public health guidance on screening and vaccination for infectious diseases in newly arrived migrants within the EU/EEA', 2018. Available at: <https://ecdc.europa.eu/en/publications-data/public-health-guidance-screening-and-vaccination-infectious-diseases-newly>

European Centre for Disease Prevention and Control. 'Rapid risk assessment: Ebola virus disease outbreak in North Kivu and Ituri Provinces, Democratic Republic of the Congo – third update', 2019. Available at: <https://ecdc.europa.eu/en/publications-data/risk-assessment-ebola-virus-outbreak-north-kivu-and-ituri-third-update>

European Centre for Disease Prevention and Control. 'Rapid Risk Assessments; Hepatitis A outbreaks in the EU/EEA mostly affecting men who have sex with men', 2016. Available at: [https://ecdc.europa.eu/sites/portal/files/documents/RRA-19-May-2017\\_UPDATE\\_2-HepatitisA-in-mostly-MSM.pdf](https://ecdc.europa.eu/sites/portal/files/documents/RRA-19-May-2017_UPDATE_2-HepatitisA-in-mostly-MSM.pdf)

European Centre for Disease Prevention and Control. 'Risk assessments'. Available at: <https://ecdc.europa.eu/en/threats-and-outbreaks/reports-and-data/risk-assessments>

European Centre for Disease Prevention and Control. 'Rules of procedure of the ECDC Advisory Forum, adopted by the European Centre for Disease Prevention and Control Management Board at its fifth meeting in Stockholm, 13-14 December 2005', 2006. Available at: [https://ecdc.europa.eu/sites/portal/files/media/en/aboutus/governance/mb/MB%20%20Meeting%20Minutes/0512\\_MB\\_Minutes.pdf](https://ecdc.europa.eu/sites/portal/files/media/en/aboutus/governance/mb/MB%20%20Meeting%20Minutes/0512_MB_Minutes.pdf)

European Centre for Disease Prevention and Control Management Board Minutes. Continuation of the Working Group on New Business Models and Financing of Large-scale EU Level Activities. (Document number: MB32/12)

European Centre for Disease Prevention and Control. 'Rules of Procedure of the ECDC Advisory Forum', 2005. Available at: [https://ecdc.europa.eu/sites/portal/files/media/en/aboutus/governance/af/Advisory%20Forum%20Decisions/1003\\_Rules\\_of\\_Procedure\\_AF.pdf](https://ecdc.europa.eu/sites/portal/files/media/en/aboutus/governance/af/Advisory%20Forum%20Decisions/1003_Rules_of_Procedure_AF.pdf)

European Centre for Disease Prevention and Control. 'Rules of Procedure of the Management Board', 2004. Available at: <https://ecdc.europa.eu/sites/portal/files/documents/MB-Rules-Procedure-Amended-MB42-March-2018.pdf>

European Centre for Disease Prevention and Control. 'Second revised document on Preparedness and Response Support Strategy 2018 – 2022, Document number: MB43/05'.

European Centre for Disease Prevention and Control. 'Strategic multi-annual programme 2007–2013', 2008. Available at: [https://ecdc.europa.eu/sites/portal/files/media/en/aboutus/Key%20Documents/07-13\\_KD\\_Strategic\\_multiannual\\_programme.pdf](https://ecdc.europa.eu/sites/portal/files/media/en/aboutus/Key%20Documents/07-13_KD_Strategic_multiannual_programme.pdf)

European Centre for Disease Prevention and Control. 'Strategic multi-annual programme 2014–2020', 2014. Available at: <https://ecdc.europa.eu/sites/portal/files/media/en/aboutus/Key%20Documents/Strategic-multiannual-programme-2014-2020.pdf>

European Centre for Disease Prevention and Control. 'Technical Report Guide to revision of national pandemic influenza preparedness plans', 2017. Available at: [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0006/355047/Guide-to-pandemic-preparedness.pdf?ua=1](http://www.euro.who.int/__data/assets/pdf_file/0006/355047/Guide-to-pandemic-preparedness.pdf?ua=1).

European Centre for Disease Prevention and Control. 'Technical Report: ECDC country preparedness activities 2013–2017', 2018. Available at: <https://ecdc.europa.eu/en/publications-data/ecdc-country-preparedness-activities-2013-2017>

European Centre for Disease Prevention and Control. 'Towards One Health preparedness. Technical report', 2019.

European Centre for Disease Prevention and Control. 'Unexplored Opportunities: Use of Climate- and Weather-Driven Early Warning Systems to Reduce the Burden of Infectious Diseases', 2018.

European Centre for Disease Prevention and Control. 'Vaccine scheduler'. Available at: <https://vaccine-schedule.ecdc.europa.eu/>

European Centre for Disease Prevention and Control. 'Work Programme Priorities - Document number: MB30/7', 2015.

European Centre for Disease Prevention and Control. 'Coordinating Competent Bodies: structures, interactions and terms of reference.', 2012. Available at: <https://ecdc.europa.eu/sites/portal/files/media/en/aboutus/governance/competent-bodies/Documents/coordinating-competent-bodies-structures-terms-of-reference-and-interactions-w-Annexes.pdf>

European Centre for Disease Prevention and Control. 'Epidemic Intelligence Information System (EPIS)'. Available at: <https://ecdc.europa.eu/en/publications-data/epidemic-intelligence-information-system-epis>

European Centre for Disease Prevention and Control/EMA. 'Joint Technical Report: The bacterial challenge: time to react', 2009. Available at: <https://ecdc.europa.eu/en/publications-data/ecdcemea-joint-technical-report-bacterial-challenge-time-react>

European Chemicals Agency. 'Financial management and budgetary reporting. Final Annual Accounts 2013-2017', 2013-2017. Available at: <https://echa.europa.eu/about-us/the-way-we-work/financial-management-and-budgetary-reporting/2017>

European Commission, Health Security Committee. 'Flash reports', 2016-2018.

European Commission. 'Health and Human Final flash report from the Plenary Meeting of the Health Security Committee 29-30 June 2017, Senningen/Luxembourg Rights in Europe', 2012.

European Commission, Communication on the precautionary principle, (COM(2000) 1final)

European Commission, 'Communication from the Commission On effective, accessible and resilient health systems, COM(2014) 215 final', 2014. Available at: [https://ec.europa.eu/health/sites/health/files/systems\\_performance\\_assessment/docs/com2014\\_215\\_final\\_en.pdf](https://ec.europa.eu/health/sites/health/files/systems_performance_assessment/docs/com2014_215_final_en.pdf)

European Commission. 'A European One Health Action Plan against Antimicrobial Resistance (AMR)'. Available at: [https://ec.europa.eu/health/amr/sites/amr/files/amr\\_action\\_plan\\_2017\\_en.pdf](https://ec.europa.eu/health/amr/sites/amr/files/amr_action_plan_2017_en.pdf)

European Commission. 'Commission Decision of 7.8.2015 on establishing Scientific Committees in the field of public health, consumer safety and the environment', 2015. Available at: [https://ec.europa.eu/health/scientific\\_committees/docs/call\\_2015\\_5383\\_decision\\_with\\_annexes\\_en.pdf](https://ec.europa.eu/health/scientific_committees/docs/call_2015_5383_decision_with_annexes_en.pdf)

European Commission. 'Commission Staff Working Document on Combatting HIV/AIDS, viral hepatitis and tuberculosis in the European Union and neighbouring countries - State of play, policy instruments and good practices. (Document number: SWD(2018) 387 final)', 2018. Available at: [https://ec.europa.eu/health/sites/health/files/communicable\\_diseases/docs/swd\\_2018\\_387\\_en.pdf](https://ec.europa.eu/health/sites/health/files/communicable_diseases/docs/swd_2018_387_en.pdf)

European Commission. 'Commission Staff Working Paper Impact Assessment SEC/2011/1519 final - COD 2011/0421', 2011. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52011SC1519&from=EN>

European Commission, 2017 Consensus Report – Health Programme – for Joint Action Grants (HP-JA). (Document reference number: 801495).

European Commission. 'ECHI - European Core Health Indicators'. Available at: [https://ec.europa.eu/health/indicators/echi/list\\_en](https://ec.europa.eu/health/indicators/echi/list_en)

European Commission. 'EU Health Programme 2014-2020'. Available at: [https://ec.europa.eu/health/funding/programme/2014-2020\\_de](https://ec.europa.eu/health/funding/programme/2014-2020_de)

European Commission. 'European Core Health Indicators (ECHI)'. Available at: [https://ec.europa.eu/health/indicators\\_data/indicators\\_en](https://ec.europa.eu/health/indicators_data/indicators_en)

European Commission. 'Final flash report from the Plenary Meeting of the Health Security Committee 29-30 June 2017, Senningen/Luxembourg', 2017. Available at: [https://ec.europa.eu/health/sites/health/files/preparedness\\_response/docs/ev\\_20170629\\_flash\\_en.pdf](https://ec.europa.eu/health/sites/health/files/preparedness_response/docs/ev_20170629_flash_en.pdf)

European Commission report (2003). MEASURES UNDERTAKEN BY MEMBER STATES AND ACCESSION COUNTRIES TO CONTROL THE OUTBREAK OF SARS. (Document number: 280503V3)

European Commission. 'Highlights of recent EGHI and EGHI sub-group meetings' Available at: [https://ec.europa.eu/health/indicators/expertgroup/highlights\\_en](https://ec.europa.eu/health/indicators/expertgroup/highlights_en)

European Commission. 'Presentation on Health Statistics and Latest Developments', 2018. Available at: [https://ec.europa.eu/health/sites/health/files/indicators/docs/ev\\_20171206\\_co09\\_en.pdf](https://ec.europa.eu/health/sites/health/files/indicators/docs/ev_20171206_co09_en.pdf)

European Commission. 'Report on the implementation of Decision No 1082/2013/EU of the European Parliament and of the Council of 22 October 2013 on serious cross-border threats to health and repealing Decision No 2119/98/EC', 2015. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52015DC0617>

European Commission. 'Study on cost-benefit analysis of reference laboratories for human pathogens', 2016. Available at: [https://ec.europa.eu/health/sites/health/files/preparedness\\_response/docs/2016\\_laboratorieshumanpathogens\\_frep\\_en.pdf](https://ec.europa.eu/health/sites/health/files/preparedness_response/docs/2016_laboratorieshumanpathogens_frep_en.pdf)

European Commission. 'UN Sustainable Development Goals'. Available at: [https://ec.europa.eu/health/eu-in-the-world/sustainable\\_development\\_goals\\_en](https://ec.europa.eu/health/eu-in-the-world/sustainable_development_goals_en)

European Commission, Health and Food Safety Directorate-General (2016) ECDC mandate and support capacity for EU humanitarian and development policies and operations. Note to Directors General of DG DEVCO and DG ECHO.

European Commission, Directorate-General Humanitarian Aid and Civil Protection (2016) ECDC mandate and support capacity for EU humanitarian and development policies and operations. Note to Director General of DG SANTE.

European Court of Auditors. 'Annual report on EU agencies for the financial year 2017 (2018/C 434/01)', 2018. Available at: <https://www.eca.europa.eu/en/Pages/DocItem.aspx?did=47145>

European Court of Auditors. 'Dealing with serious cross-border threats to health in the EU: important steps taken but more needs to be done', 2016. Available at: <https://www.eca.europa.eu/en/Pages/DocItem.aspx?did=40126>

European Court of Auditors. 'Special report no 33/2016: Union Civil Protection Mechanism: the coordination of responses to disasters outside the EU has been broadly effective', 2017. Available at: <https://www.eca.europa.eu/en/Pages/DocItem.aspx?did=40303>

European Court of Auditors. 'Special Report No.28 Dealing with serious cross-border threats to health in the EU: important steps taken but more needs to be done.', 2016. Available at: <https://www.eca.europa.eu/en/Pages/DocItem.aspx?did=40126>

European Food Safety Authority. 'EFSA - data taken from EFSA Final Annual Accounts 2013-2017', 2017. Available at: <https://www.efsa.europa.eu/sites/default/files/about/Documents/accounts2017.pdf>

European Food Safety Authority. 'EFSA Annual Accounts 2013', 2015-2017. Available at: <https://www.efsa.europa.eu/en/about/corporatedocs>

European Food Safety Authority. 'EFSA Annual report 2017', 2018. Available at: <https://www.efsa.europa.eu/en/publications/corporate>

European Food Safety Authority. 'Multi-country outbreak of Salmonella Enteritidis phage type 8, MLVA profile 2-9-7-3-2 and 2-9-6-3-2 infections', 2017. Available at: <https://www.efsa.europa.eu/en/supporting/pub/en-1110>

European Food Safety Authority. 'Outbreak of hepatitis A virus infection in four Nordic countries', 2013. Available at: <https://www.efsa.europa.eu/en/supporting/pub/en-417>

European Food Safety Authority. 'Third external evaluation of EFSA – progress made, recommendations for improvement', 2018. Available at: <https://www.efsa.europa.eu/en/press/news/180823>

European Parliament. EU Agencies, Common Approach and Parliamentary Scrutiny - European Implementation Assessment. 2018.

European Parliament, Committee on the Environment, Public Health and Food Safety. 'Draft Report on a European One Health Action Plan against Antimicrobial Resistance (AMR)', 2018. Available at: [http://www.europarl.europa.eu/doceo/document/A-8-2018-0257\\_EN.html](http://www.europarl.europa.eu/doceo/document/A-8-2018-0257_EN.html)

European Parliament, Committee on the Environment, Public Health and Food Safety. 'Draft Report on EU options for improving access to medicines', 2017. Available at: [http://www.europarl.europa.eu/doceo/document/A-8-2017-0040\\_EN.html](http://www.europarl.europa.eu/doceo/document/A-8-2017-0040_EN.html)

European Parliament, Committee on the Environment, Public Health and Food Safety. 'Draft Report on the implementation of the cross-border Healthcare Directive', 2018. Available at: <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+COMPARL+PE-628.580+01+DOC+PDF+V0//EN&language=EN>

European Parliament. 'A Global Strategy on foreign and security policy for the EU', 2016. Available at: <http://www.europarl.europa.eu/EPRS/EPRS-Briefing-580902-Global-Strategy-on-foreign-and-security-policy-FINAL.pdf>

European Parliament. 'Fact Sheets on the European Union: Public health'. Available at: <http://www.europarl.europa.eu/factsheets/en/sheet/49/public-health>

European Parliament. 'Opinion of the Committee on the Internal Market and Consumer Protection for the Committee on the Environment, Public Health and Food Safety', 2008.

European Scientific Conference on Applied Infectious Disease Epidemiology. 'Abstract Books 2013-2017'. Available at: <https://www.escaide.eu/en/general-information/abstract-books>

European Union Agency for Fundamental Rights. 'EU: Right to healthcare not guaranteed in practice', 2011. Available at: <https://fra.europa.eu/en/press-release/2011/eu-right-healthcare-not-guaranteed-practice>

Eurostat. 'European Health Interview Survey (2018/255, 2013/141)', 2018. Available at: <https://ec.europa.eu/eurostat/documents/3859598/8762193/KS-02-18-240-EN-N.pdf/5fa53ed4-4367-41c4-b3f5-260ced9ff2f6>

Eurostat. 'Healthcare expenditure and financing (2015/359)'. Available at: [https://ec.europa.eu/eurostat/statistics-explained/index.php/Healthcare\\_expenditure\\_statistics](https://ec.europa.eu/eurostat/statistics-explained/index.php/Healthcare_expenditure_statistics)

Eurosurveillance. 'Screening for infectious diseases in newly arrived migrants in Europe: the context matters', 2018. Available at: <https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2018.23.28.1800283>

Evaluation Cooperation Group (2018) Final Report of the ECG Working Group on Evaluation Recommendations, Management Responses and Feedback Loops. Available at: <https://www.ecgnet.org/document/final-report-ecg-working-group-evaluation-recommendations-management-responses-and-feedback>

Eve Dubé, Maryline Vivion & Noni E MacDonald (2015) Vaccine hesitancy, vaccine refusal and the anti-vaccine movement: influence, impact and implications, Expert Review of Vaccines, 14:1, 99-117, DOI: 10.1586/14760584.2015.964212

Flu News Europe, Joint ECDC-WHO/Europe Weekly Influenza Update Website. Available at: [www.flunewseurope.org](http://www.flunewseurope.org)

Harbarth, S. et al. (2003), "The Preventable Proportion of Nosocomial Infections: An Overview of Published Reports", Journal of Hospital Infection, Vol. 54, No. 4, pp. 258-266.

Ipsos MORI. 'Analysis of European Centre for Disease Prevention and Control's Organisational Performance', 2018.

Inserm (2018). Launch of the European Joint Action on Vaccination (EU-JAV)

Kanitz, Wu, Gambi, et al. 'Variation in adult vaccination policies across Europe: An overview from VENICE network on vaccine recommendations, funding and coverage', 2012. Available at: <https://www.sciencedirect.com/science/article/pii/S0264410X12008511?via%3Dihub>

McKinsey & Company (2018). European public health market assessment.

Nikolayevskyy, Hillemann, Richter, et al. 'External Quality Assessment for Tuberculosis Diagnosis and Drug Resistance in the European Union: A Five Year Multicentre Implementation Study', 2016. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/27055064>.

Official Journal of the European Union. 'Consolidated version of the Treaty on the Functioning of the European Union, Article 168'. Document 12012E/TXT. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A12012E%2FTXT>

Official Journal of the European Union. 'Council of the European Union: Council conclusions on vaccinations as an effective tool in public health (2014/C 438/04)'. Available at: [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014XG1206\(01\)&rid=8](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014XG1206(01)&rid=8)

Official Journal of the European Union. 'Council Recommendation of 15 November 2001 on the prudent use of antimicrobial agents in human medicine (Text with EEA relevance)'. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32002H0077>

Official Journal of the European Union. 'Decision No 1082/2013/EU of the European Parliament and of the Council of 22 October 2013 on serious cross-border threats to health and repealing Decision No 2119/98/EC Text with EEA relevance'. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32013D1082>

Official Journal of the European Union. 'Regulation (EC) No 1338/2008 of the European Parliament and of the Council of 16 December 2008 on Community statistics on public health and health and safety at work'. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32008R1338>

Official Journal of the European Union. 'Regulation (EC) No 851/2004 of the European Parliament and of the Council of 21 April 2004 establishing a European Centre for disease prevention and control'. Available at: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A32004R0851>

Official Journal of the European Union. 'Regulation (EU) No 1260/2013 of the European Parliament and of the Council of 20 November 2013 on European demographic statistics'. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32013R1260>

Official Journal of the European Union. 'Regulation (EU) No 282/2014 of the European Parliament and of the Council of 11 March 2014 on the establishment of a third Programme for the Union's action in the field of health (2014-2020) and repealing Decision No 1350/2007/EC Text with EEA relevance, OJ L 86, 21.3.2014'. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32014R0282>

Official Journal of the European Union. 'Report on the implementation of Decision No 1082/2013/EU of the European Parliament and of the Council of 22 October 2013 on serious cross-border threats to health and repealing Decision No 2119/98/EC. COM(2015) 617 final'. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52015DC0617>

Official Journal of the European Union. 'White Paper on Nutrition, Overweight and Obesity related health issues (2007/2285(INI))', 2010. Available at: <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2010:008E:0097:0105:EN:PDF>

Official Journal of the European Union. 'The Council recommendation of 7 December 2018 on strengthened cooperation against vaccine-preventable diseases (2018/C 466/01)', 2018. Available at: [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018H1228\(01\)&from=GA](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018H1228(01)&from=GA)

Panagiotopoulos. 'Screening for infectious diseases in newly arrived migrants in Europe: the context matters', 2018. Available at: <https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2018.23.28.1800283>

ProMED International Society for Infectious Diseases Website. Available at: <http://www.promedmail.org/>

Quaglio, Gianluca, Goerens, et al. 'Ebola: Lessons learned and future challenges for Europe. The Lancet Infectious Diseases. 16. 10.1016/S1473-3099(15)00361-8', 2016. Available at: [https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(15\)00361-8/fulltext](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(15)00361-8/fulltext)

Rand Europe. 'Protocol for the evaluation of European Centre for Disease Prevention and Control Disease Programmes'. Available at: <https://www.rand.org/randeurope/research/projects/ecdc-disease-programme-evaluation-protocol.html>

Ricchizzi, Latour, Karki, et al. 'Antimicrobial use in European long-term care facilities: results from the third point prevalence survey of healthcare-associated infections and antimicrobial use, 2016 to 2017', 2018. Available at: <https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2018.23.46.1800394>

Rosenkötter, Achterberg, Bon-Martens, et al. 'Key features of an EU health information system: a concept mapping study, European Journal of Public Health, Volume 26, Issue 1', 2016. Available at: <https://doi.org/10.1093/eurpub/ckv075>

Skowronski, Leir, Sabaiduc, et al. 'Interim estimates of 2018/19 vaccine effectiveness against influenza A(H1N1)pdm09', 2019. Available at: <https://www.eurosurveillance.org/content/10.2807/1560-7917.ES.2019.24.4.1900055?emailalert=true&fbclid=IwAR1IT4tSNWiU6pYoPuejcdTSJ0aQB1Er5uMbOsUVkcJB3tIGJ0XFPE1PvA>

Stehling-Ariza, T., Lefevre, A., Calles, D., Djawe, K., Garfield, R., & Gerber, M. et al. (2017). Establishment of CDC Global Rapid Response Team to Ensure Global Health Security. *Emerging Infectious Diseases*, 23(13). doi: 10.3201/eid2313.170711

Peron E, Zaharia A, Zota L, Severi E, Mårdh O, Usein C, Bălgrădean M, Espinosa L, Jansa J, Scavia G, Rafila A, Serban A, Pistol A. Early findings in outbreak of haemolytic uraemic syndrome among young children caused by Shiga toxin-producing *Escherichia coli*, Romania, January to February 2016. *Euro Surveill*. 2016;21(11):pii=30170. DOI: <http://dx.doi.org/10.2807/1560-7917.ES.2016.21.11.30170>

The National Association of National Public Health Institutes. 'Public Health Leaders from over 20 Zika Affected Countries Convene', 2016. Available at: <http://ianphi.org/news/2016/zikameeting.html>

The Task Force for Global Health Website. Available at: <https://www.taskforce.org/epi-roadmap>

Tijhuis. 'Mapping: Linkages between Joint Action and WHO EHII mapping exercises. Presentation.', 2017. Available at: [https://ec.europa.eu/health/sites/health/files/indicators/docs/ev\\_20171206\\_co03\\_en.pdf](https://ec.europa.eu/health/sites/health/files/indicators/docs/ev_20171206_co03_en.pdf)

US Department of Health and Human Services, Centres for Disease Control and Prevention. 'CDC's Approach to Disseminating Science: Moving From Data to Action', 2017. Available at: [https://www.nichd.nih.gov/sites/default/files/2017-11/Task\\_Force\\_CDC\\_Dissemination.pdf](https://www.nichd.nih.gov/sites/default/files/2017-11/Task_Force_CDC_Dissemination.pdf)

World Health Organisation. 'Central Asian and Eastern European Surveillance of Antimicrobial Resistance (CAESAR)'. Available at: <http://www.euro.who.int/en/health-topics/disease-prevention/antimicrobial-resistance/about-amr/central-asian-and-eastern-european-surveillance-of-antimicrobial-resistance-caesar>

World Health Organisation. 'International Health Regulations (IHR)'. Available at: [https://www.who.int/topics/international\\_health\\_regulations/en/](https://www.who.int/topics/international_health_regulations/en/)

World Health Organization. Africa. 'WHO and the African Union Commission are working to establish the African Centre for Disease Control and Prevention in 2015', 2015. Available at: <https://afro.who.int/news/who-and-african-union-commission-are-working-establish-african-centre-disease-control-and>

World Health Organization. 'One Health', 2019. Available at: <http://www.who.int/features/qa/one-health/en/> [accessed January 2019]

Versluis E, van Asselt M, Kim J. The Multilevel Regulation of Complex Policy Problems: Uncertainty and the Swine Flu Pandemic. *European Policy Analysis*. 2019 May;5(1):80-98.

Zumla, Dar, Kock, et al. 'Taking forward a 'One Health' approach for turning the tide against the Middle East respiratory syndrome coronavirus and other zoonotic pathogens with epidemic potential', *International Journal Of Infectious Diseases*, 2016. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/27321961>