



Achievements, challenges and major outputs 2019

Highlights from the Annual Report of the Director

This digest offers a selection of key activities from 2019 but by no means represents the entire range of ECDC's accomplishments during that year. A detailed look at ECDC's range of activities, its organisational and administrative structures, and its work plan can be found in the full version of the Annual Report.

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Foreword by the Chair of the Management Board

One major achievement of the Management Board in 2019 was the finalisation of the third independent external evaluation of the Centre. The evaluation showed the progress in the last five years: ECDC, the final report said, ‘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’.

The Management Board also discussed ECDC’s long-term strategy 2021–2023, which will be approved later this year.

In 2019, ECDC continued to provide scientific and operational support to the Member States and the European Commission by:

- delivering 24 rapid risk assessments and upgrading its surveillance processes and systems.
- providing technical support to the European Commission in the implementation of Decision No 1082/2013/EU on serious cross-border threats to health; in this context, ECDC also updated the ‘Early Warning and Response System’.
- sending a response team to Mozambique to support the control of the cholera outbreak; another team went to the Democratic Republic of Congo in response to the Ebola outbreak.

At a time when the world is confronted with an unparalleled pandemic, the European Commission and ECDC play a crucial role to provide decision makers with reliable data and practicable mitigation options for a European response to COVID-19.

The last 15 years have shown ECDC’s growing ability to establish harmonised and evidenced-based standards and methods to be used across Europe. The Centre’s continued efforts in epidemiology, disease surveillance, prevention of communicable diseases and promotion of vaccination have significantly contributed to European public health. At a time when the world is confronted with an unparalleled pandemic, ECDC plays an even more crucial role in providing decision makers with reliable data, comprehensive risk assessments, mitigation options and practical guidance for the optimal European response to COVID-19.

Dr Anni-Riitta Virolainen-Julkunen
Chair of the ECDC Management Board
26 February 2020

Top: ECDC building in Solna, Sweden

Bottom: Vytenis Andriukaitis, Commissioner for Health and Food, and ECDC Director Andrea Ammon addressing ECDC staff on 15 March 2019



Introduction by the Director

2019 marked a year of many changes, many of which will shape our work over the coming years:

- A new long-term strategy (2021–2027) was discussed by the Management Board
- The third external evaluation of the Centre for the period 2013 to 2017 was overall very positive of ECDC’s work and its added value for the Member States.
- As part of the *Next Generation ECDC* initiative, the Centre’s new organisational structure was put in place in January 2020; it will ensure efficient internal collaboration.
- Work started on two new programmes: *e-Health and Digital Technologies* and *Foresight*. The first datasets on e-health have already been collected.

ECDC continued to support the Member States and the European Institutions in the area of communicable diseases: we responded to 34 requests from the Commission and the European Parliament, and published over 200 scientific documents on the ECDC website.

Major projects in 2019 included the re-engineering of ECDC’s surveillance systems, the outsourcing of the Centre’s information technology, a redesign of the Early Warning and Response System, and improving access to whole genome sequencing for all Member States.

From September 2018 to February 2020, ECDC chaired the Network of EU Agencies, which provided an excellent opportunity to gain more visibility, engage in strategic exchanges with other agencies and help align our processes, with tangible benefits for our day-to-day work.

I would like to thank all ECDC staff for doing an excellent job. I am also grateful to our many partners in the Member States and the European Commission that relentlessly support our work.

Dr Andrea Ammon
Director of ECDC
26 February 2020



ECDC – Europe’s agency for public health

Established in 2005 and based in Stockholm, Sweden, the European Centre for Disease Prevention and Control (ECDC) is part of a network of EU agencies that perform technical and scientific tasks that help EU institutions take decisions and implement policies. EU agencies are decentralised bodies and are found in almost all EU Member States.

The scope of ECDC’s mandate covers disease surveillance for almost 60 infectious diseases, ranging from AIDS/HIV to rare zoonotic diseases. We also promote vaccinations, identify health-relevant behaviours, ensure laboratory quality across Europe, train public health epidemiologists from all over Europe, and inform our audiences about all aspects of infectious diseases.

At the end of 2019, ECDC had 268 statutory staff members engaged in disease surveillance, outbreak detection, scientific advice, information technology, communication, and administration.

A European approach to disease surveillance

ECDC operates and maintains three major systems to monitor infectious diseases across Europe. Each system is aimed at one area of disease control:

EWRS (threat detection, threat alerts), EPIS (epidemic intelligence), and TESSy (disease surveillance and statistics).

- The Early Warning and Response System (EWRS), which was completely redesigned in 2018–2019, is a confidential system allowing Member States and the European Commission to share information about health events with potential EU-level impact and coordinate response measures to protect public health.
- The Epidemic Intelligence Information System (EPIS) is a secure web-based communication platform that lets scientists and public health experts exchange epidemiological information.
- The European Surveillance System (TESSy) is a large-scale database system for disease data. EU/EEA countries regularly report their national data on infectious diseases to TESSy. Based on these data, visitors to the online ECDC Surveillance Atlas of Infectious Diseases can generate up-to-date surveillance reports and interactive maps.

In addition, ECDC supports the work of the European Commission and the Member States in the EU Health Security Committee, which functions as an advisory group on health security at the European level.

Top left: EU Agencies play a vital role in ensuring the safety and well-being of citizens. ECDC chaired the Network of EU Agencies during 2019

Top right: An ECDC working group meets in one of the new conference rooms

Bottom: The daily round table meeting is hosted by the epidemic intelligence team



A human neutrophil interacting with Klebsiella pneumoniae (pink), a multidrug-resistant bacterium that causes severe hospital infections

ECDC's Disease Programmes: data for preparedness, prevention and response

With data on almost 60 diseases and health topics from all EU Member States, ECDC's scientists are able to paint a detailed picture of the current (and historical) epidemiological situation in Europe.

The Centre monitors disease trends and suggests measures for disease and outbreak prevention. ECDC's work on diseases is grouped into 'Disease Programmes'.

The threat of antimicrobial resistance

Antimicrobial Resistance and Healthcare-Associated Infections (ARHAI Programme). In 2019, ECDC produced several rapid risk assessments that dealt with outbreaks of Enterobacteriaceae resistant to carbapenems – a last-line group of antimicrobials that are a documented (or at least potential) cross-border threat to health. For several of these outbreaks, whole-genome sequencing (WGS) analysis of the isolates was crucial in establishing a genomic link between cases.

In 2019, ECDC launched the European Antimicrobial Resistance Genes Surveillance Network, or EURGen-Net for short, a network for the WGS-based surveillance of multidrug-resistant bacteria of public health importance. The Network consists of the national reference laboratories (or their equivalents) of 37 European countries (all EU Member States, Iceland, Norway, as well as Bosnia- and Herzegovina, Kosovo*, Montenegro, North Macedonia, Serbia, Turkey and the UK). The objectives are to determine the geographic distribution and population dynamics

of multidrug-resistant bacterial clones and transmissible resistance elements to inform risk assessment, prevention and control policies, and support countries in strengthening their technical capabilities to perform WGS-based surveillance of multidrug-resistant bacteria with epidemic potential.

ECDC supported an AMR conference in Bucharest on 1 March 2019 during the Romanian EU presidency. ECDC held a simulation exercise to explore the coordinated response of Member States and the EU to the emergence of a novel strain of a difficult-to-treat, extensively drug-resistant bacterium in a healthcare setting. ECDC also published, with the Organisation for Economic Co-operation and Development (OECD), a briefing note on 'Antimicrobial resistance – tackling the burden in the European Union'. On 18 November, in conjunction with WHO's World Antibiotic Awareness Week (18–24 November 2019), ECDC organised the 12th European Antibiotic Awareness Day, emphasising again the importance of prudent antibiotic use.

** This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.*



High on the agenda in 2019: Ebola, Zika and Lyme

Emerging and Vector-Borne Diseases (EVD Programme). ECDC closely monitored the tenth outbreak of Ebola virus disease in the Democratic Republic of the Congo (DRC). The 2018 outbreak was the biggest Ebola outbreak in the history of the country and the second biggest ever recorded worldwide. When the outbreak significantly escalated, ECDC released – over the course of several weeks – five updates of its rapid risk assessment. Starting in October, ECDC deployed several experts in DRC to support the Directorate-General for European Civil Protection and Humanitarian Aid Operations.

ECDC monitored the first autochthonous transmission of Zika virus detected in Europe, which occurred in France in August 2019, and conducted a rapid risk assessment. Fortunately, investigations by the French authorities showed that the virus had not spread further. ECDC also produced rapid risk assessments on an outbreak of Rift Valley fever in Mayotte (a French overseas territory) and on autochthonous cases of dengue in Spain and in France.

The Centre analysed the 2018 surveillance data on Lyme neuroborreliosis. An external expert panel assessed the requirements to implement a 2018 European Parliament resolution on Lyme disease and provided input on how to support surveillance and

reporting on Lyme disease in the Member States. In a related ECDC project on surveillance and reporting of Lyme disease in the Member States, the Centre uses surveys and individual consultations in the Member States that are conducted by external consultants. The consultants will identify what measures will have to be taken to implement the European Parliament resolution and provide up-to-date scientific data to the European Commission, the European Parliament and the Member States. Performance reports for this project are expected by the end of 2020.

ECDC regularly publishes European vector distribution maps for mosquitoes, ticks and sandflies on its website. The Centre also continued to monitor the spread of West Nile virus and fine-tuned a modelling tool to help countries predict West Nile virus activity and compare different vector-control strategies.

ECDC conducted external quality assessments for orthopoxviruses through EVD-LabNet, a laboratory network, to assess the ability of laboratories to correctly detect and identify those viruses.

In October, the Centre held its annual network meeting with the national focal points for emerging and vector-borne diseases.

Top left: ECDC monitors European mosquito populations

Bottom: An airplane sponsored by DG ECHO, the Directorate-General for European Civil Protection and Humanitarian Aid Operations



*Top: Food processing facility
Bottom: Unravelling the bacteriological mysteries of poultry products. The small specks of black are Salmonella colonies*

Food-borne outbreaks require a European response

Food- and Waterborne Diseases and Zoonoses (FWD Programme).

In 2019, ECDC and EFSA published two major reports together: the *EU One Health 2018 zoonosis report* and the *Annual report on antimicrobial resistance in zoonotic and indicator bacteria from humans, animals and food*. An analysis of the collected data showed a stable number of confirmed human cases of campylobacteriosis and salmonellosis in the EU between 2014 and 2018.

Shiga toxin-producing *Escherichia coli* (STEC) infections in humans were the third most commonly reported zoonosis in the EU; STEC cases also were on the increase from 2014 to 2018. According to the report on antimicrobial resistance (2017 data), *Campylobacter* bacteria show such a high level of resistance to fluoroquinolones (such as ciprofloxacin) in some countries that these antimicrobials are no longer effective in the treatment of severe campylobacteriosis.

Urgent inquiries (UI) are requests launched by participating countries or ECDC to assess the multi-country dimension of events occurring at the national

level. They are launched and coordinated through the EPIS-FWD platform. In 2019, 88 urgent inquiries were initiated by 23 participating countries, with one UI launched by ECDC. UIs were related to salmonellosis (39 inquiries), listeriosis (20), verocytotoxin-producing *Escherichia coli* (VTEC) (11) infection, and hepatitis A (8). On average, a single UI would receive replies from eleven countries; 31 countries replied to at least one UI.

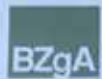
Cooperation with EFSA was strengthened by introducing weekly teleconferences to monitor the evolution of multi-country food-borne events and plan the production of public health risk assessments. Rapid outbreak assessments are published jointly by ECDC and EFSA. In 2019, ECDC published three joint rapid outbreak assessments with EFSA: two on multi-country listeriosis outbreaks and one on *Salmonella* Agona linked to infant formula. The listeriosis outbreaks were linked to cold-smoked fish products and ready-to-eat sliced meat products. More timely communication to risk managers is ensured through joint ECDC–EFSA notification summaries, which are made available to all relevant contact points.

Juckt's im Schritt?

Lass dich auf sexuell
übertragbare
Infektionen testen.

 **liebesleben.de**

Eine Aktion der Bundeszentrale für
gesundheitliche Aufklärung (BZgA) mit
Unterstützung des Bundesministeriums
für Gesundheit e. V., gefördert durch
das Bundesprogramm "HIV/AIDS"



Bundeszentrale
für
gesundheitliche
Aufklärung



Billboard in Leer, Germany: 'Itchy crotch? Get tested for sexually transmitted infections'. It's your love life. Protect it.



Steadily on the increase since 2010: syphilis

HIV, Sexually Transmitted Infections and Viral Hepatitis (HASH Programme). ECDC was requested by its STI network coordination committee to assess the epidemiological trends for syphilis and propose options on how respond to the European syphilis situation. A report based on a literature review and a systematic review published in 2019 could demonstrate that notifications rates in Europe have been on the increase since 2010, picking up speed over the last few years, predominantly among men having sex with men. The report proposed a number of evidence-based actions for mitigating the syphilis epidemic.

The Centre published a standardised survey protocol for national estimates of hepatitis C prevalence. A four-year project that will help Member States to conduct national prevalence surveys is now in phase one. When completed, it will help countries assess the true burden of the disease in their populations.

ECDC worked in close collaboration with UNAIDS to produce a set of European principles for HIV pre-exposure prophylaxis (PrEP) that focus on PrEP service delivery and the monitoring of national programmes. The objective is to support the Member States in implementing and monitoring pre-exposure prophylaxis for HIV and provide a standardised monitoring tool for PrEP in the EU/EEA.

Together with the European Monitoring Centre for Drugs and Drug Addiction, ECDC started the evidence collection phase on a guidance for the prevention of infectious diseases for people who inject drugs. Data collection will be completed in 2020. An updated guidance document is scheduled for 2021.



#PROUDTOBEAVAXXER



PROUDTOBEAVAXXER

Get vaccinated!

Influenza and other Respiratory Viruses (IRV Programme). Seasonal influenza creates a sizeable burden on healthcare services in Europe every winter, resulting in tens of thousands of deaths among the elderly. Zoonotic influenza and other emerging respiratory viruses also threaten public health in new and unexpected ways. Strong virological and epidemiological surveillance is needed to guide vaccination programmes for seasonal influenza.

Examples of zoonotic influenza viruses of concern include avian influenza A(H5N1) (since the 1990s), avian influenza H5N8, H7N9, H7N7 and H10N8, and swine influenza A(H1N1). An example of an emerging non-influenza respiratory virus of concern is the Middle East respiratory syndrome coronavirus (MERS-CoV).

In March, ECDC organised three pandemic preparedness workshops on influenza with all EU/EEA countries to review their preparedness guidance and exchange experiences on preparedness planning.

ECDC and the WHO Regional Office for Europe continued their joint influenza surveillance: during the influenza season a weekly influenza bulletin for Europe is published on www.flunewseurope.org. Other areas of joint work included an estimation of the disease burden disease for influenza, a severity assessment of pandemic influenza, and contributions to the global strain selection process for influenza vaccines. In December, ECDC and the WHO Regional Office for Europe conducted the first regional joint situation assessment of seasonal influenza for all 53 countries in the European Region.

The objective was to provide an early assessment to help Member States prepare their health systems for the upcoming influenza season. ECDC also continued its funding of the external I-MOVE network, which provides estimates of seasonal influenza vaccine effectiveness and produces valuable data for the composition of the next seasonal influenza vaccine.

ECDC monitors zoonotic influenza viruses and other emerging respiratory viruses in real time through its epidemic intelligence function. As in the years before, ECDC and the European Food Safety Authority published quarterly situation assessment reports on avian influenza.

ECDC continued coordinating the European Influenza Surveillance Network (EISN) and the European Reference Laboratory Network for Human Influenza (ERLI-Net). ECDC prepared the biannual external quality assessment for the laboratory testing of influenza viruses; it will be completed in 2020.

In 2019, the Centre piloted e-learning courses for influenza bio-analytics. The courses demonstrate how to use and analyse sequencing data.

Earlier in June, ECDC organised a meeting of the national focal points for communication in Luxembourg, with the participation of the Directorate-General for Health and Food Safety and the WHO Regional Office for Europe. During the meeting, the Member States provided feedback on the vaccination portal.

ECDC staff is playing it safe during influenza season. They're getting a #FluShot because #VaccinesWork. Needless to say: everybody is very #proudtobeavaxxer.



TB, its prevalence and its prevention

Tuberculosis (TB Programme). EU/EEA Member States, EU pre-accession countries, and countries covered by the European Neighbourhood policy have different epidemiological profiles with regard to tuberculosis (TB): five eastern and south-eastern European countries are characterised by a medium burden of (drug-resistant) TB, while the western European countries are mostly low-burden countries, with the possibility of progressing towards TB elimination. In low-burden settings, people at risk for TB are often in vulnerable, hard-to-reach populations. TB in migrants also contributes to the epidemiology. In medium-burden countries, TB is more often present in the general population.

A three-year project on TB inventory studies was finalised. The objective of the project was to assess the completeness of TB notifications in six Member States (Croatia, Denmark, Finland, the Netherlands, Portugal and Slovenia). The project showed that completeness in these countries varies between 74% and 100%, which makes combining data from different sources (e.g. surveillance systems, hospitals, laboratories and insurance databases) a viable approach to get a more accurate view of the real burden of TB in these countries.

On World TB Day (24 March), ECDC and the WHO Regional Office for Europe presented the joint *Annual report on tuberculosis surveillance and monitoring in Europe* (2017 data). The report showed that the decrease in TB notifications continues but remains at a level that is not sufficient to reach the targets laid down in the UN Sustainable Development Goals.

Following a successful three-year project that focused on the five high-priority countries for TB in Europe, efforts were made to extend similar support to all Member States. The project will consist of joint workshops, training activities, exchange visits, and consultancy support to individual countries. The first activity is already scheduled: a workshop on the screening of migrants for tuberculosis will take place in Athens, Greece, in February 2020, with 11 countries participating (Austria, Belgium, Croatia, Cyprus, Germany, Greece, Italy, Malta, Portugal, Slovenia, and Spain).

A joint surveillance meeting with WHO took place in The Hague in May. Topics included the improvement of TB surveillance, prevention and control. This meeting was followed by the Wolfheze Workshop meeting, jointly organised by WHO, the Dutch KNCV Tuberculosis Foundation and ECDC. The meeting focused on ‘Translating the commitments of the United Nations high-level meeting on tuberculosis into actions.’

A joint-country visit with WHO to the Netherlands took place in June to advise on the extent and prioritisation of latent tuberculosis infection screening in migrants. During the visit, the experts were also able to provide advice on how to retain knowledge and expertise on tuberculosis: how can health professionals maintain their skills when they only see a very low number of cases in their country?

Left: Effective against many contagious diseases: open the window and air out!



presents:

The dangerous doctor who didn't want to go home

"I was contagious, but refused to go home."

This photo comic is part of a series that deals with low vaccination rates in healthcare workers.

As a healthcare worker you should keep in mind that about 80 per cent of seasonal flu deaths occur in people 65 years and older. Over half of all seasonal flu hospitalisations are in that age group.

As a healthcare worker, there's a lot you can do against the flu. Get vaccinated each year, wash your hands, and stay home when sick.



ECDC used its @ECDC_Flu Twitter account to promote videos, infographics and photo comics targeted at healthcare workers. The source files for the photo comics are in a customisable format and can be downloaded from ECDC's website.

Vaccines work

Vaccine-Preventable Diseases (VPD Programme).

The implementation of effective national vaccination programmes across Europe is a public health success story. To safeguard the health of European citizens, vaccination programmes need to be continued and extended. ECDC supports the Commission and the Member States in addressing EU-wide challenges with regard to vaccine-preventable diseases and vaccination.

ECDC established a collaboration network to support the national immunisation technical advisory groups (NITAG) in the Member States. NITAGs are independent committees assessing scientific evidence on vaccines and immunisation and provide recommendations to the national vaccination boards. The objective is to strengthen and improve the efficiency and effectiveness of scientific evidence assessment across Europe. The network, established in 2018, held its first meeting in 2019 to agree on its terms of reference; a series of webinars was also held. A working group has already looked at the scientific evidence behind vaccines and vaccination strategies, initially focusing on influenza vaccines in conjunction with children and older people.

The Centre started collecting evidence to support guidelines for a core EU vaccination schedule, taking into account WHO recommendations for routine immunisation. One aim is to improve the compatibility of national schedules and promote equity in health protection for all citizens. A proposal will be finalised in 2020.

A beta version of ECDC's new European vaccination information portal was delivered to the Member States for consultation and testing in December. The official public launch is scheduled for April 2020. The vaccine portal provides objective, transparent and up-to-date information on vaccines, vaccination benefits, vaccination safety, and the pharmacovigilance process.

ECDC also started a project on improving the collection and management of data on European vaccination coverage.

In addition, ECDC helped the Directorate-General for Health and Food Safety organise the global vaccination summit, held on 12 September 2019 in Brussels under the auspices of the President of the European Commission, Jean-Claude Juncker, and WHO Director General Tedros Adhanom Ghebreyesus. ECDC was part of the programme committee of the summit, and ECDC Director Dr Andrea Ammon participated in a panel discussion on vaccine hesitancy.

ECDC continued its collaboration with the Joint Action on Vaccination, co-funded by CHAFEA (the Consumers, Health, Agriculture and Food Executive Agency) and 17 EU Member States. The primary goal of the Joint Action is to increase vaccination coverage in the EU by establishing mechanisms for EU-wide collaboration.

With more than 34 000 users in 2019 (26 500 in 2018) and over 180 000 page views (160 000 in 2018), the EU Vaccine Scheduler was one of the most popular features on ECDC's web portal in 2019.



Disease surveillance is a global business: visitors from the Africa CDC discussing public health issues in ECDC's Emergency Operations Centre

More data, more quickly, and for more diseases

Disease surveillance

For the first time in its existence, ECDC managed to publish 75% of the surveillance data collected on EU-reportable diseases and pathogens within three months of closing the data collection. Data are published and visualised on the online *Surveillance Atlas of Infectious Diseases*. This ensures that ECDC surveillance data become available much faster so that experts and decision makers at the EU level and in the Member States can use them sooner. Incidentally, publishing 75% of all data within three months also meets one of ECDC's internal performance indicators.

The *Surveillance Atlas* covers 58 diseases and health issues as well as indicators of data quality. In 2019, it was accessed by over 25 000 users with nearly 90 000 page views. Depending on the disease, datasets are available in a weekly, monthly or yearly format.

Epidemic intelligence

In 2019, ECDC detected 306 events (2018: 377) that met the criteria of a public health threat as defined in the criteria of the EU Early Warning and Response System. Fifty-eight of the detected threats led to the monitoring of a new threat (2018: 71). Of all events,

192 (62%) originated in the EU (2018: 62%). Eighty-one EWRS messages and 153 comments were posted (2018: 104 EWRS messages, 139 comments). Seven EWRS messages were classified as 'alert notifications', and 74 as 'other information'; 11 resulted in initiating a new threat assessment in the Threat Tracking Tool (TTT).

Preparedness

Capacity building and continued preparedness and response planning, including the identification of current gaps in preparedness capacity, are critical elements in the European response to major epidemics and other serious cross-border health threats. Recent international threats showed the importance of reliable scientific evidence for all aspects of preparedness.

In the area of community preparedness, ECDC completed a three-year project aimed at exploring how communities, for example local communities or citizen associations, interact with institutions in charge of preparedness and response during public health emergencies.

ECDC provided technical support to the European Commission on the implementation of Article 4 of Decision 1082/2013/EU on serious cross-border threats to health. ECDC was part of a task force that revised the triennial survey on national preparedness. In March, all countries participated in workshops on influenza pandemic preparedness to discuss updates in national pandemic preparedness plans.



Top: Presentation on the HPSA health emergency preparedness self-assessment tool
Bottom: In October, ECDC hosted the 34th ICT Advisory Committee Meeting of the EU Agencies



In October, ECDC organised a simulation exercise in Greece. The scenario was based on the intentional release of pathogens. Twenty-seven countries participated to assess their bio-risk awareness and evaluate their preparedness for biosafety and bioterrorist events.

The Centre finalised a literature review on how expert evidence is used in the decision-making process during the response to emergencies. Findings were discussed at an expert meeting, and plans for additional fieldwork in 2020 have been finalised.

In May, ECDC held its annual meeting with the focal points for preparedness and response. In September, a training workshop on risk communication and crisis coordination took place in Slovenia. In December, an expert meeting on indicators for public health preparedness was organised.

Response

Rapid risk assessments support the Member States and the European Commission in their preparedness efforts by providing a summary of the threat, offering an assessment of the risk posed by the threat, and summarising pertinent information on available response and mitigation measures.

In 2019, the Centre produced 24 rapid risk assessments, three of which were rapid outbreak assessments that were produced with the European Food Safety Authority. Threats included carbapenem-resistant Enterobacteriaceae, Ebola in the Democratic Republic of the Congo, dengue fever, listeriosis, and Zika virus disease.

ECDC also published 10 epidemiological updates that provided updated information on evolving outbreaks or public health threats. Epidemiological updates typically contain case numbers, the temporal and geographical distribution, age and sex distribution, information on identified or potential risk factors, and a risk assessment. In 2019,

epidemiological updates dealt with the Ebola outbreak in the Democratic Republic of the Congo, Zika virus disease and West Nile fever.

ECDC finalised its methodology (including a set of redesigned templates) for rapid risk assessments. The new methodology simplifies the process, facilitates the identification of external experts, and ensures the engagement of the Member States. Member States can now contribute to rapid risk assessments at an early stage through the Centre's Scientific Advice Repository and Management System (SARMS).

Scientific advice

The production of independent, evidence-based scientific advice that is methodologically sound, useful, and timely is one of the ECDC's foremost tasks.

In 2019, ECDC continued to work on the implementation of its scientific strategy. ECDC published 219 scientific outputs, including 58 technical reports/guidance documents (published under its own imprint) and 89 peer-reviewed articles (in scientific journals).

As a publicly funded agency, ECDC makes sure that most of its scientific output is freely available, both on its website and on the websites of scientific journals. In 2019, 82% of ECDC publications in peer-reviewed journals were in open access.

ECDC's updated IRIS 2.0 tool for the prioritisation of scientific outputs was successfully applied to assess the ECDC strategy 2021–2027. IRIS advises on the strategic direction of the Centre's activities and suggest activities that could be up-scaled or down-scaled.

ECDC also published a methodological guidance on managing heterogeneity when pooling data from different surveillance systems.





Microbiology

In 2019, ECDC conducted an assessment of microbiology laboratory capabilities for the national and EU-wide surveillance of communicable diseases, based on the latest available data (2018). The EU Laboratory Capability Monitoring System, dubbed EULabCap for short, is based on a set of 60 agreed indicators. All EU/EEA countries participated. The EULabCap index, which expresses the capacity of the Member States' public health microbiology laboratories, continues to improve. The average EU score reached 7.8/10 in 2018 (fair to high capacity level) and showed a gradual reduction of about one-third of the capacity gap between countries compared with 2013. All 30 countries reached intermediate or high capacity levels in 2018, and more than two thirds of the countries have laboratory capabilities sufficient for robust public health preparedness. Overall, EU laboratory capacity has increased by 15% on average over the past five years. Suboptimal performance was detected for the surveillance of antimicrobial resistance in influenza viruses and food-borne bacterial pathogens.

ECDC conducted a survey among its focal points for microbiology and surveillance on automated laboratory data reporting to national surveillance databases. Thirteen Member States already use a partially or completely automated system for reporting diseases. These findings will serve as a starting point for developing an EU digital surveillance system for communicable diseases.

ECDC supported the European Commission in the implementation of the European regulation on in-vitro diagnostic devices and assisted the Consumers, Health, Agriculture and Food Executive Agency in the preparation of calls to strengthen the capacity of EU reference laboratories concerning antibiotic resistance.

Laboratory capabilities and capacities in the EU display considerable differences. ECDC's external quality assessments provide concise feedback and help to improve the quality of the lab's performance



ECDC and Europe's public health community

Public health training

The **ECDC Fellowship Programme** prepares field epidemiologists (EPIET) and microbiologists (EUPHEM) to intervene in cross-border outbreaks and other threats to public health. In 2019, 37 fellows graduated from the ECDC Fellowship Programme and the EPIET-associated programmes (cohort 2017). At year's end, 78 fellows were enrolled (41 from cohort 2018 and 37 from cohort 2019). The Programme, which operates in public health institutes and laboratories located in EU/EEA countries, features an introductory course, training modules, and field investigations in and outside the EU/EEA. Scientific coordinators and supervisors conduct site visits to ensure the sufficient capacity of the training sites.

An external evaluation of the ECDC Fellowship Programme was completed in 2019 and concluded that the Programme's aims and objectives are relevant for its stakeholders at national and EU level. Its contribution to a network of public health professionals who can effectively respond to cross-border threats in a harmonised way was seen as particularly valuable. The evaluation also found that the Programme contributed significantly to the growing public health capacity in the Member States. The Member States track, which is partly

subsidised by the Member States, was seen as a relevant addition to the main EU track and a good way to reduce inequalities in capacity between Member States.

International relations and country support.

ECDC maintains an extensive professional network.

In 2019, ECDC held the first meeting of its focal points in international centers for disease control (CDC) for Africa, Canada, China, the Caribbean, Israel, Thailand and the USA. The meeting participants established a network of international CDCs and agreed on annual meetings and quarterly videoconferences.

ECDC completed a two-year project (2017–2019) aimed at preparing national authorities in Western Balkan countries and Turkey for their participation in ECDC systems and networks. The ECDC-IPA5 project, implemented with financial assistance from the Directorate-General for Neighbourhood and Enlargement Negotiations under the Instrument for Pre-Accession Assistance, contributed to the strengthening of national capacities in surveillance, public health microbiology, and preparedness.

In February, ECDC and EFSA held a regional workshop in Belgrade, Serbia, on the 'One Health' approach against antimicrobial resistance. More than forty experts from the human and animal health sectors took part.

Left: Participants of ECDC's Fellowship Programme gather for a group photo

Public health communication

Many of our communication activities are aimed at the European public health community, mainly public health experts, scientists and journalists.

ECDC published 219 scientific publications in 2019, including rapid risk assessments and regular surveillance reports. The publications newsletter had 4 217 subscribers in 2019, 488 more than last year. ECDC is increasingly publishing data, graphs, maps and infographics as downloadable, copyright-free assets to allow partners and stakeholders to reuse ECDC content. The number of followers on ECDC's corporate Twitter account (@ECDC_EU) grew by 4 738 new followers, a plus of 19% percent. ECDC has now

almost 30 000 followers on Twitter. All ECDC social media accounts are verified as a trusted source, which reinforces their credibility.

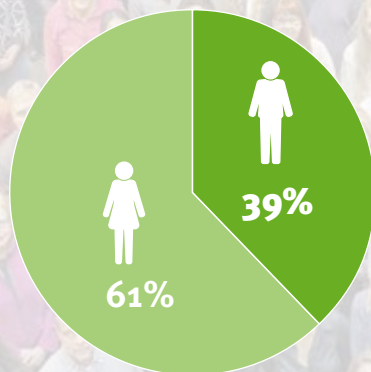
A media analysis for 2019 shows that 7 973 (10 047 in 2018) media clippings mentioning ECDC were published in the EU (both print and online, excluding social media), a decrease of 20%. The most popular topics mentioned in the news were vaccines and immunisation, measles, antimicrobial resistance and antibiotic consumption, seasonal and avian influenza, TB, STIs, HIV, and hepatitis.

Bottom: Cross-sectoral meeting for the new vaccination portal



ECDC in numbers

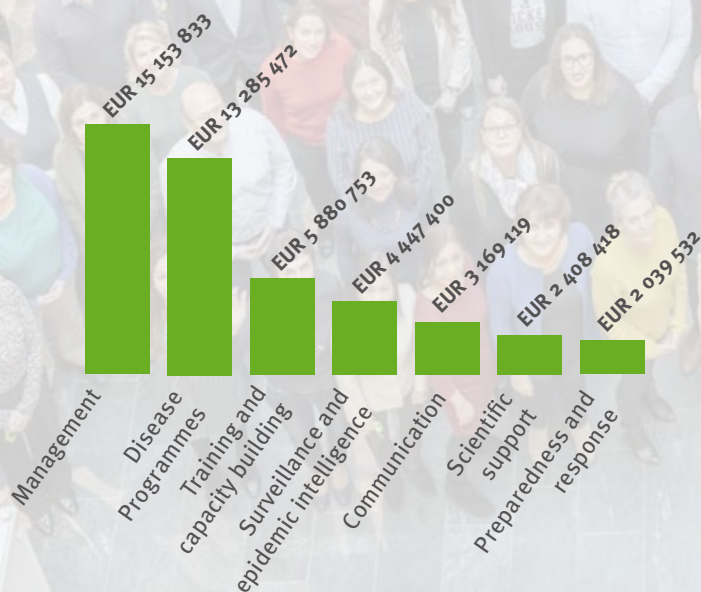
ECDC gender balance



ECDC staff by country



2019 budget



As of 31 December 2019, ECDC had a total of 268 statutory staff members.

**European Centre for Disease
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