



European Centre for Disease Prevention and Control

Achievements, challenges and major outputs 2012

Highlights from the Annual Report of the Director

This digest offers a small selection of key activities from 2012 but by no means represents the entire range of ECDC's accomplishments in 2012.

A detailed look at ECDC's range of activities, its organisational and administrative structures, and its work plan can be found in the unabridged version of the Annual Report.

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Foreword by the Chair of the Management Board

I felt very honoured in November 2012 when the Management Board elected me as their Chair. I would like to begin this foreword by thanking my fellow Board members for the confidence they have placed in me. I also wish to congratulate my Deputy Chair, Dr Tiiu Aro, on her election. I look forward to working with Tiiu Aro, Marc Sprenger and the Board Members over the coming years to consolidate, and build on, the achievements of my esteemed predecessor, Professor Dr Hubert Hrabčik (Chair, Management Board, 2008–12).

I joined ECDC's Board as the member appointed by France in 2008, when the Centre was still in its start-up phase. Both as a Board member and in my capacity as Director-General for the French Institute for Public Health Surveillance (InVS), I was impressed by the role ECDC played in supporting the EU and Member States in responding to the first influenza pandemic of the 21st century (2009–10), and

the multicountry outbreak of Shiga toxin-producing *E. coli* (STEC O104) centred on northern Germany in 2011.

2013 will be a crucial year for the next stage of ECDC's development. The Management Board must agree to a new Strategic Multiannual Programme for the Centre covering 2014–20. This is likely to be a period of continuing budgetary restraint for the public health sector in all EU countries. Defining the support and added EU-level value that ECDC can bring to national disease prevention and control programmes is therefore of crucial importance.

Reviewing this Annual Report and recalling the discussions we had in the Board in 2012, I feel confident that we are on the right track. I look forward to an even more successful 2013!

Dr Françoise Weber
Chair of Management Board
22 February 2013



Introduction by the Director

2012 saw three firsts in our Centre's history. In March, ECDC took on the chairmanship of the Network of EU Agencies. In September, we held the first Joint Strategy Meeting, bringing together the Centre's key technical partners. Then in November, our Management Board began its 2012–16 mandate and elected our first-ever female Chair, Dr Françoise Weber.

In our Work Programme for 2012, we identified measles elimination as our top cross-cutting priority for the year. Following the upsurge of measles cases reported in the EU in 2011, ECDC and its partners felt it was important to raise the profile of this public health challenge. ECDC has, since autumn 2011, produced monthly surveillance reports on the measles situation in the EU.

In 2012, ECDC devoted considerable intellectual energy in analysing the barriers to increasing measles vaccine coverage in the EU, and worked hard to identify options for overcoming those barriers. Our efforts included an innovative 'Free Thinkers Meeting' in April

and a meeting with representatives of hard-to-reach populations in September. The result of our efforts was a package of analysis and options for actions we presented at the EU Conference on Childhood Vaccination hosted by the European Commission in Luxembourg in October. With a solid analysis of the problems and some well-thought-out options for action, I feel the road towards measles elimination in the EU has indeed become clearer.

Among the other highlights of 2012, in my view, were the progress we made on further strengthening cooperation between public health laboratories in the different EU countries, and the development of tools to help countries joining the European Union assess their readiness to join the EU's system of disease prevention and control. However, there were many other highlights. I invite you to look through the brochure and read for yourself the highlights for the various issues and diseases we work on.

Dr Marc Sprenger
ECDC Director
20 February 2013



Committed to public health: ECDC's staff outside the Tomtebodavägen headquarters

ECDC – because public health matters

Established in 2005 and based in Stockholm, Sweden, the European Centre for Disease Prevention and Control (ECDC) is the European Union agency with the responsibility to strengthen Europe's defences against infectious diseases. ECDC identifies, assesses and communicates current and emerging threats to human health posed by infectious diseases and supports the Member States of the European Union in their preparedness and response efforts. The Centre provides scientific advice to EU/EEA Member States and is a trusted source of information and resources in all areas related to public health.

In 2012, ECDC commanded a core budget of EUR 58.2 million, an increase of 2.8% from 2011.

As of 31 December 2011, ECDC had 278 permanent staff members engaged in research, disease

surveillance, disease detection, information technology, communication, and administration.

Public health is our business

One of ECDC's main strengths is its capacity to respond quickly to the changing epidemiology of communicable diseases. To accomplish this, ECDC operates and maintains three systems, each of which is essential to one specific area of disease control: EPIS (epidemic intelligence), TESSy (disease surveillance), and EWRS (threat detection).

The Epidemic Intelligence Information System (EPIS) is a secure web-based communication platform which allows an international exchange of technical information and early warnings on infectious disease



Round-table meeting at ECDC's Emergency Operations Centre

outbreaks. Epidemiologists and microbiologists working in different disease areas use EPIS to alert colleagues in other countries to cases of urgent concern and share their scientific analyses in the EPIS online forums.

The European Surveillance System (TESSy) is a highly flexible database system for collecting disease data. Thirty EU/EEA countries report data on communicable diseases to the system. TESSy was launched in 2008 and, in addition to routine surveillance, has replaced a number of data collection systems known as 'dedicated surveillance networks' and now provides experts with a one-stop shop for EU surveillance data.

The Early Warning and Response System (EWRS) is a confidential computer system allowing Member

States to send alerts about health events with a potential impact on the EU, share information, and coordinate the response measures required to protect public health. The system has already been successfully used for previous outbreaks of SARS, pandemic influenza A(H1N1) and other communicable diseases.

The year in review

This digest offers a selection of key activities from 2012 but by no means represents the entire range of ECDC's accomplishments in 2012. A detailed look at ECDC's range of activities, its organisational and administrative structures, and its work plan can be found in the unabridged version of the Annual Report¹.

¹ European Centre for Disease Prevention and Control. Annual report of the director – 2012. Stockholm: ECDC; 2013.

Fighting antimicrobial resistance

More than 3 000 hospitals provided data for ECDC's first large-scale point prevalence survey of healthcare-associated infections and antimicrobial use in European acute-care hospitals.

Data collection took place between May 2011 and November 2012 in all EU Member States, Iceland, Norway, and Croatia.

A preliminary analysis of a representative sample of 905 hospitals (226 829 patients in 13 601 wards) showed that 5.9% of the enrolled patients had at least one healthcare-associated infection on the day of the survey, and 35% were receiving at least one antimicrobial.

Antimicrobial resistance and healthcare-associated infections are among the most serious public health problems, both globally and in Europe. ECDC estimates that every year approximately four million patients in the 27 Member States acquire a healthcare-associated infection and that approximately 37 000 deaths result directly from these infections. A large proportion of these deaths are due to the most common



Surveillance of healthcare-associated infections: keeping healthcare providers informed about disease patterns helps to detect and prevent further infections

multidrug-resistant bacteria, e.g. methicillin-resistant *Staphylococcus aureus* (MRSA), extended-spectrum beta-lactamase-producing *Enterobacteriaceae*, and multidrug-resistant *Pseudomonas aeruginosa*, for which the number of directly attributable deaths is currently estimated at 25 000.

3 000+



Not only do invasive species pose a major and fast-growing threat to native biodiversity in Europe, they can also endanger the health of European citizens.

Practical guidelines for the surveillance of invasive mosquitoes in EU countries were published and successfully used in a pilot project in Belgium².

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The buzz about mosquitoes

On 11 November 2012, the public health authorities in Madeira reported an accumulated total of 1357 cases of dengue fever. Dengue is spread by the bite of infected *Aedes* mosquitoes.

In 2012, as in the years before, ECDC provided on-location assistance to support Member States in their response to outbreaks: a mission to Madeira was conducted three weeks after the dengue fever alert in October, with the goal to set up an electronic surveillance system for the monitoring of dengue outbreaks.

Malaria was another mosquito-borne disease which concerned ECDC's experts: During a joint ECDC–WHO

mission to Greece in November 2012, surveillance and control measures for malaria and West Nile fever were assessed.

ECDC also produced weekly West Nile fever spatial distribution maps of human cases in the EU and neighbouring countries (end of June to mid-November).

² European Centre for Disease Prevention and Control. Guidelines for the surveillance of invasive mosquitoes in Europe. Stockholm: ECDC; 2012.



Robert-Jan Smits, Director General DG Research, and Dr Marc Sprenger, Director ECDC, at the launch event for the European Antibiotic Awareness Day 2012 in Brussels

Now in its fifth year: European Antibiotic Awareness Day

Now in its fifth year, the annual European Antibiotic Awareness Day attracted a record number of 43 participating countries.

The European Antibiotic Awareness Day is a European health initiative coordinated by ECDC to raise awareness about the prudent use of antibiotics. It provides support to European countries by providing toolkits that contain key messages and template communication materials for adaptation and use in national campaigns, at EU-level events, and as strategy and media materials.

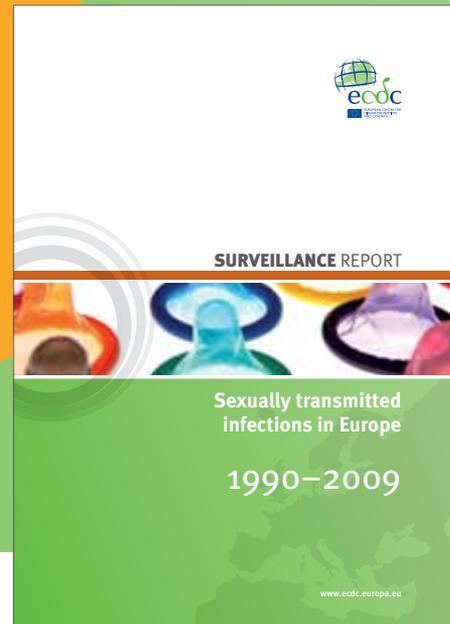
The 5th European Antibiotic Awareness Day attracted strong media interest across Europe. Between 18 October and 28 December 2012, 446 articles (in print

or online) referred to European Antibiotic Awareness Day. It is estimated that these articles reached 60 million readers. The ECDC campaign TV spot on the prudent use of antibiotics broadcast on Euronews reached an estimated 9.4 million Europeans.

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*Big data: 20 years' worth of data
on sexually transmitted infections*



Heavy disease burden: sexually transmitted infections

ECDC published a comprehensive report on sexually transmitted infections (STI), covering 20 years' worth of data.

The report, entitled *Sexually transmitted infections in Europe 1990–2010*, shows significant heterogeneity with respect to STI care and case reporting, but also highlights similarities in trends among risk groups, for example men who have sex with men, young people.

The European Gonococcal Antimicrobial Surveillance Programme (Euro-GASP) report shows a decreasing susceptibility of gonococci to first-line treatment regimens. A response plan was launched to support

Member States in the control, management and treatment of multidrug-resistant gonorrhoea.

The evaluation of STI and HIV prevention programmes among men who have sex with men shows that there is little evidence for effective interventions to reduce the burden of disease. This also emphasises the challenges when tackling the ongoing transmission of STI/HIV among men who have sex with men.



Mulling over different options at the Free Thinkers Meeting on measles in April 2012

It's just a jab ...or two

Two doses of the measles–mumps–rubella vaccine provide nearly total protection against measles. And if 95% of people are fully immunised, it should stop the virus from spreading.

Europe lags behind in its efforts to eliminate measles, and ECDC wants to change that. An innovative 'Free Thinkers Meeting' in April brought together experts from the fields of science, communication, and public health in an attempt to come up with new strategies to curb the spread of the disease.

ECDC also sponsored a *Euronews*-produced measles documentary, directed at a potential audience of over 20 million people.

In the area of disease surveillance, the *European Measles Monthly Monitoring* bulletin expanded its scope. In addition to the latest measles surveillance data it now also covers rubella.



New influenza strains are shared in a globalised, interconnected world

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New season, different vaccine

ECDC published a total of 40 issues of its influenza bulletin, *Weekly Influenza Surveillance Overview (WISO)*.

In the western hemisphere, the influenza season traditionally runs from October to May. During, before and after the season, ECDC makes sure that European public health officials have all the latest flu figures: in addition to the 40 WISOs, ECDC published 20 issues of its *Influenza Weekly Digest* as well as 10 major scientific publications. Further information can be found in ECDC's annual influenza surveillance report, entitled *Influenza in Europe*.

In 2012, using an ECDC protocol, Member States indicated the insufficient effectiveness of seasonal flu vaccines.

ECDC's monthly virus characterisations, jointly produced with the Community Network of Reference Laboratories for Human Influenza (CNRL), offer the latest available information on the genetic makeup of viruses circulating in Europe and worldwide – an essential piece of information for the development of an effective influenza vaccine.

The ECDC co-funded VAESCO project researched possible links between pandemic vaccines and a number of plausible side effects such as Guillain–Barré syndrome. No such links were discovered. However, ECDC confirmed national observations of a link between the influenza vaccine Pandemrix and narcolepsy with cataplexy in children.

TB and the city: tackling tuberculosis 2012

Every year, World TB Day is observed on 24 March.

ECDC takes this day as an opportunity to focus on one particularly pressing TB topic. In 2012, ECDC chose urban TB control as the theme for World TB Day. A series of activities were initiated and supported: 'Urban TB Control' events were held in Barcelona, Milan, London and Rotterdam; a twitter chat was moderated jointly by ECDC and the WHO Regional Office for Europe; a press release and package were distributed; articles on urban TB control were published in peer-reviewed journals; and an expert video was launched.

ECDC's comprehensive surveillance report *Tuberculosis surveillance and monitoring in Europe 2012* provides, for the first time, an overview of the progress on TB control in the EU/EEA.

At the request of the ministries of health, ECDC and the WHO Regional Office for Europe sent a team of experts to Hungary and Latvia in order to review the TB control situation in the country and – together with local experts – present the health authorities with key suggestions for action to improve TB prevention, control and care.

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Mycobacterium tuberculosis, as seen under a high magnification



Server stack at ECDC

The big picture: comprehensive disease surveillance

13 million. That is the number of unique records stored in ECDC's TESSy database.

TESSy – The European Surveillance System – offers instant access to data on 49 contagious diseases. Access rights were extended to 1500 expert users from 56 countries.

Maintaining sufficient data quality standards is one of the major challenges when collecting and analysing surveillance data from multiple countries and systems. Therefore, a number of initiatives were started in 2012 to improve data quality at various levels of the reporting and database subsystems.

A group of surveillance experts developed guidelines for monitoring data quality and evaluating national surveillance systems. ECDC experts also studied how national surveillance systems report data to TESSy, trying to explain the significant differences in reporting rates between the various Member States.



ESCAIDE was a success story from the beginning

Scientific support: sharing the knowledge

In a typical work week, ECDC releases at least four scientific documents. In 2012, this amounted to 240 scientific publications.

Some of these documents are relatively short, such as ECDC's rapid risk assessments or influenza reports, but almost 40% of our scientific documents are major scientific studies, offering their readers insights into all aspects of public health.

The 2012 European Scientific Conference on Applied Infectious Disease Epidemiology (ESCAIDE), held in

Stockholm on October 24–26, had over 600 participants. ESCAIDE serves as a forum for public health scientists, epidemiologists, microbiologists, and others with a professional interest in infectious disease and public health. The conference also presents an outstanding opportunity to learn more about how epidemiology, microbiology and other disciplines can be applied to diminish the impact of communicable diseases.

Eurosurveillance is a top-ranked scientific journal with five-year impact factor of 4.55.



ECDC's Emergency Operations Centre

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On the lookout: detecting health threats

57 new health threats were identified and monitored in 2012.

The total number of monitored health threats in 2012 amounted to 69, as some health threats were carried over from previous years: Long- and midterm threats include measles, autochthonous malaria in Greece, seasonal influenza, Schmallenberg virus, anthrax among intravenous drug users, dengue fever, influenza A(H5N1), poliomyelitis, and chikungunya fever.

More than one third (38%) of the threats monitored during 2012 were related to food- and waterborne diseases. Diseases of environmental and zoonotic origin (19%), influenza (11%) and vaccine-preventable

and invasive bacterial diseases (9%) lead the list. Fewer health threats were recorded for tuberculosis (3%) and antimicrobial resistance and healthcare-associated infections (3%). Hepatitis, HIV, sexually transmitted infections, and blood-borne infections accounted for 1%.

For three main mass gathering events during 2012, namely the EURO 2012 football tournament in Poland and Ukraine and the Olympics and Paralympics in London, ECDC monitored the risks related to communicable diseases. Field support was provided to the EURO 2012 football championships and the Olympics.



Participants of the EPIET introductory course gather for a group photo outside the historic Lazaretto in Mahon Harbour, Menorca, Spain

The smart getting smarter: teaching and training

In 2012, a total of 219 young experts were either enrolled in the EPIET or EUPHEM (European Programme for Intervention Epidemiology/Public Health Microbiology) programmes or participated in short training courses in epidemiology.

Over one hundred short training courses, all based on standardised EPIET/EUPHEM training modules, were held in 2012.

At the end of 2012, 105 EPEIT/EUPHEM fellows were in training: 27 from Cohort 2010, 40 from Cohort 2011, and 38 from Cohort 2012.

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Effectively dispersing scientific facts: communication

The Public Health Capacity Unit is the one hub at ECDC where all communication activities come together.

In 2012, ECDC released 240 scientific publications. All publications undergo a structured editorial process which ensures that the information published by ECDC is academically sound as well as comprehensible for its key users.

ECDC has established a strong presence online, participating on Twitter, Facebook and YouTube. The ECDC web portal serves as an entry point for ECDC's corporate website, conference sites, and dedicated extranets. In 2012, the website was visited by approximately 780 000 people, thanks to improvements in the design, functionality and content of the website.

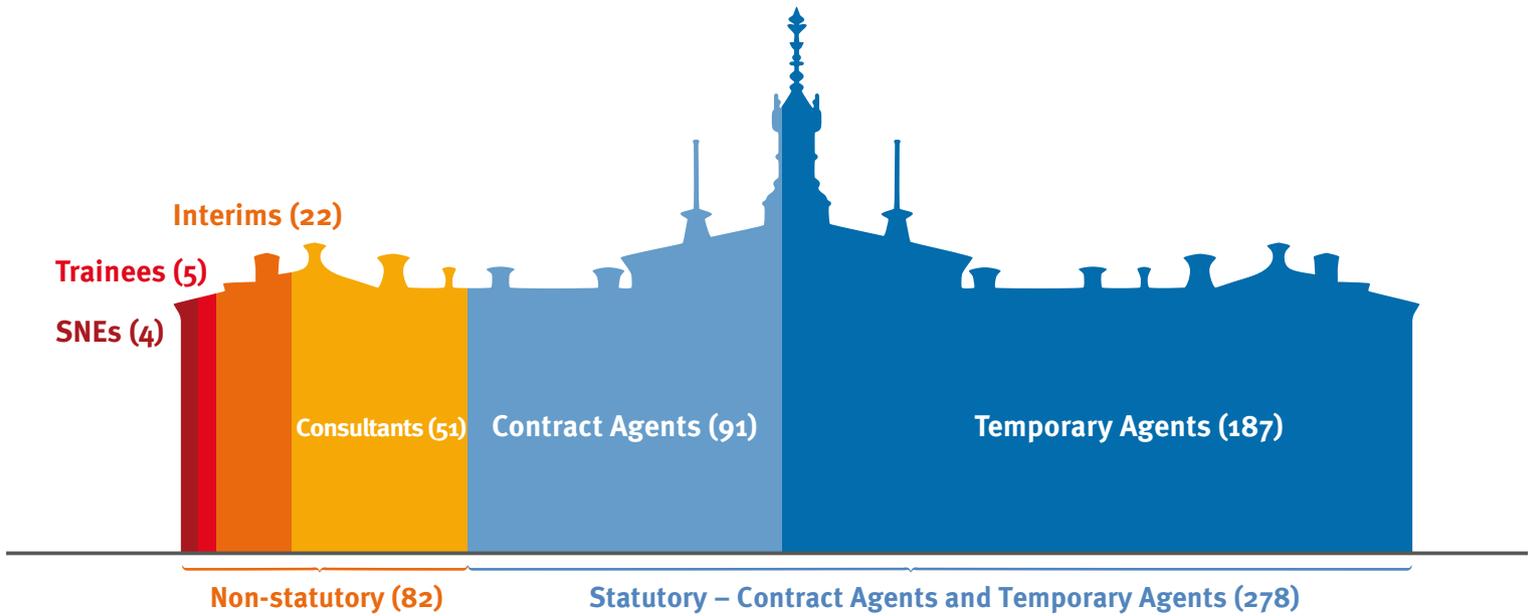
Having strong connections with the media proved to be essential during the year, with over 3000 articles covering ECDC in the media and a population reach of 270 million people. General inquiries on a wide variety of health topics are routinely processed via the info mailbox (info@ecdc.europa.eu), and several hundred queries were answered in 2012.

In 2012, the scientific journal *Eurosurveillance* received its first impact factor. An impressive 6.15 for 2011 placed *Eurosurveillance* at rank 6 among the 70 journals in the infectious diseases category. The journal published 186 peer-reviewed articles and 14 editorials. The rejection rate was 76% for regular articles. In 2012, when it became known that patients from Saudi Arabia and Qatar had been infected with

a novel coronavirus, *Eurosurveillance* was among the first scientific journals to provide authoritative information. In total, the journal published eight peer-reviewed rapid communications on the novel coronavirus in three months.



Eurosurveillance is ECDC's highly ranked scientific journal



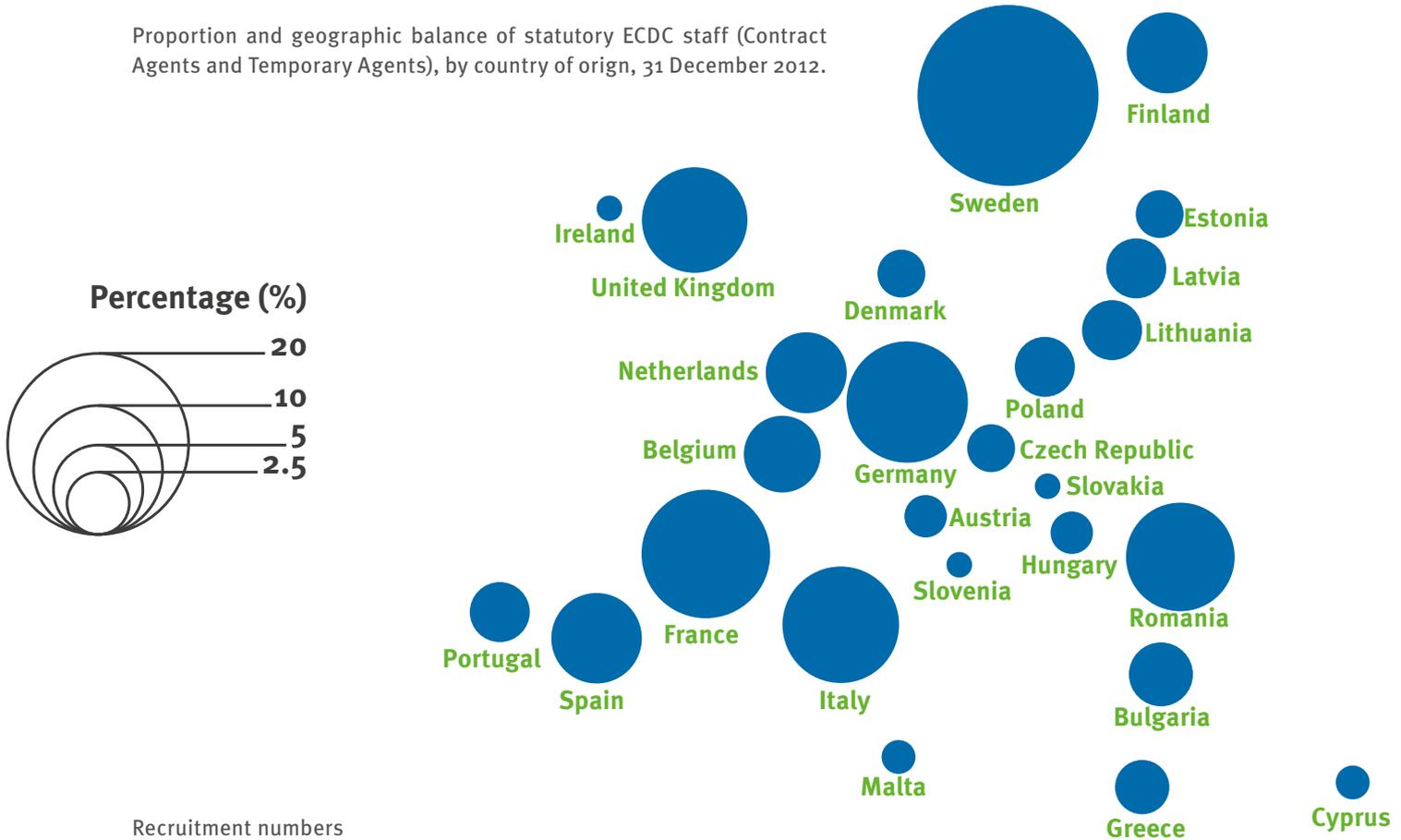
Who we are: human resources

At the end of 2012, ECDC had 278 full-time staff members. Together with interim staff, trainees, and seconded national experts, the total number of people employed at ECDC rose to 309.

The Centre employs 60% women and 40% men (Contract Agents and Temporary Agents).



Proportion and geographic balance of statutory ECDC staff (Contract Agents and Temporary Agents), by country of origin, 31 December 2012.



Recruitment numbers



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