ECDC **CORPORATE**

Consolidated annual activity report

2021

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Contents

Abbreviations

ABAC	Accrual-Based Accounting, the EC integrated budgetary and accounting system
AMR	Antimicrobial resistance
APHEA	Agency for Public Health Education Accreditation
ARHAI	Antimicrobial resistance and healthcare-associated infections
ASPHER	Association of Schools of Public Health in the European Region
BREEAM	Building Research Establishment Environmental Assessment Method
CCB	Coordinating Competent Body
CDC	US Centers for Disease Control and Prevention
CDTR	Communicable disease threats reports
COVID-19	Coronavirus disease 2019
EARS-Net	European Antimicrobial Resistance Surveillance Network
EEA	European Environment Agency
EEA/EFTA	European Economic Area/European Free Trade Association
EEAS	European External Action Service
EFGS	European Federation Gateway Service
EFSA	European Food Safety Authority
EHDS	European Health Data Space
EHFG	European Health Forum Gastein
ELDSNet	European Legionnaires' Disease Surveillance Network
EMA	European Medicines Agency
EMAS	EU Eco-Management and Audit Scheme
ENP	European Neighbourhood Policy
ENVI	Committee on the Environment, Public Health and Food Safety of the European Parliament
EPHESUS	Evaluation of European Union/European Economic Area public health surveillance systems
EPIET	Epidemiology Path of the ECDC Fellowship programme
EpiPulse	European Surveillance Portal for Infectious Diseases
EQA	External quality assessment
ERLI-Net	European Reference Laboratory Network for Human Influenza
ESAC-Net	European Surveillance of Antimicrobial Consumption Network
ESCAIDE	European Scientific Conference on Applied Infectious Disease Epidemiology
EU	European Union
EU-ANSA	EU Agencies Network on Scientific Advice
EULabCap	EU Laboratory Capability Monitoring System
EUPHEM	Public Health Microbiology Path of the ECDC Fellowship Programme
Euro-GASP	European Gonococcal Antimicrobial Surveillance Programme
EVD	Emerging and vector-borne diseases
EWRS	Early Warning and Response System
FAO	Food and Agriculture Organisation of the United Nations
FRA	European Union Agency for Fundamental Rights
FWD	Food- and waterborne diseases and zoonoses
HAI	Healthcare-associated infection
HIV	Human immunodeficiency virus
IAS	Internal Audit Service
ICT	Information and Communication Technology
IHR	International Health Regulations
IMF	Integrated Management Framework
IPA	Instrument of Pre-Accession Assistance
IPC	Infection prevention and control
IRIS	Issue-Resources-Impact-Solidarity (decision-making and prioritisation tool)
JIACRA	Joint Inter-agency Antimicrobial Consumption and Resistance Analysis
JRC	Joint Research Centre
KPI	Key Performance Indicator
MoU	Memorandum of understanding
NFP	National Focal Point
NITAG	National Immunisation Technical Advisory Group

NPI	Non-pharmaceutical interventions
OECD	Organisation for Economic Cooperation and Development
OIE	World Organisation of Animal Health
PHE	Public Health Emergency
RRA	Rapid Risk Assessment
RT-PCR	Reverse Transcription Polymerase Chain Reaction
SARI	Severe Acute Respiratory Infection
SARMS	Scientific Advice Repository and Management System
SARS-CoV-2	Severe acute respiratory syndrome coronavirus 2
SNE	Seconded national experts
SPD	Single Programming Document
SRM	Stakeholder Relationship Management
STI	Sexually transmitted infections
TALD	Travel-associated Legionnaires' disease
TB	Tuberculosis
TEPHINET	Training Programs in Epidemiology and Public Health Interventions Network
TESSy	The European Surveillance System
VectorNet	European Network for Arthropod Vector Surveillance for Human Public Health and Animal Health
VPI	Vaccine-preventable diseases and Immunisation
WGS	Whole genome sequencing
WHO	World Health Organization

Management Board analysis and assessment

The Management Board has assessed the ECDC Consolidated Annual Activity Report for the financial year 2021 and appreciates the results achieved by the Centre during the second year of the COVID-19 pandemic, noting in particular, the following:

Implementation of the work programme 2021

ECDC has been working in a Public Health Emergency (PHE) mode since January 2020, with many technical experts removed from their daily tasks to work on the PHE roster. In the framework of the COVID-19 response, at least 112 (32%) ECDC staff members worked in the PHE. With the increased work related to COVID-19 response, the Centre delivered 74% of the outputs planned in its Single Programming Document 2021–2023. Nine percent of the planned outputs were postponed to 2022, while 16% were delayed or had not yet started at the end of 2021.

Human resources

The initial ECDC establishment table foresaw 281 posts for 2021. As part of the review of the ECDC mandate, the Centre received 31 posts in 2021. Furthermore, to manage the European Health Emergency Preparedness and Response Authority grants, ECDC was approved to recruit an additional 15 posts initially foreseen for 2022. Hence the total number of additional posts in 2021 amounted to 46. For the international projects funded by the European Commission, ECDC was granted 21 posts, the recruitment of which started in 2021. At the end of 2021, ECDC employed 351 staff members, including statutory staff, contract agents for COVID-19 response, European Health Emergency Preparedness and Response Authority grants and grant-funded projects staff and Seconded National Experts (SNEs).

Budget

The core budget of the Centre for 2021 (EUR 168.1 million) increased by 169% compared with 2020 (EUR 62.5 million). Budget execution in terms of commitment appropriations at the end of the year reached 99.35%, equivalent to EUR 167.0 million, which is an excellent result. Budget execution in terms of payment appropriations at the end of the year reached 64.08%, equivalent to EUR 107 million.

ECDC carried forward EUR 13.5 million from its 2020 budget to 2021. At the end of 2021, the payments for EUR 12.5 million had been caried out, which corresponds to a budget execution of 92.41%. ECDC carried EUR 59.3 million forward from 2021 to 2022.

External reviews

In 2021, ECDC finalised the implementation of the recommendations from 'The external strategic and performance review of the ECDC response to COVID-19' carried out by the Centre in 2020. The main outcomes of this work are the amended outputs e.g. changes in the presentation of the Rapid Risk Assessment to be more relevant for the reader, and the redrafted Public Health Event (PHE) plan, which considers external benchmarking and lessons learned from the COVID-19 response.

Furthermore, ECDC responded to the Ombudsman's inquiry on COVID-19 related communication, and with this, improved the availability and accessibility of COVID-19 related outputs on the ECDC website.

Third Joint Strategy Meeting

ECDC held its Third Joint Strategy Meeting with its key stakeholders (Management Board, Advisory Forum, Directors of Coordinating Competent Bodies and National Coordinators), in May, running a series of workshops during the summer, and conducting a plenary at the end of September. The themes for discussions were chosen based on the third external evaluation, ECDC strategy 2021-2027, and the proposed amended ECDC mandate. These included: digitalisation of EU surveillance, silent 'P' in ECDC, EU standards for emergency preparedness, ECDC's role in the global health security, and how ECDC could get closer to EU Member States. From the Management Board's perspective this meeting provided an excellent platform for open and strategic discussions with ECDC and key stakeholders.

ECDC Communication Policy 2022-2027

The Management Board discussed and approved the ECDC Communication policy 2022-2027 in November 2021. This policy establishes a common understanding of the Centre's target audiences and stakeholders, including the general public. It also provides priority areas for Centre's external and internal communication. It builds on previous experiences and incorporates the findings and recommendations of the evaluations, audits, and performance analysis conducted both within and outside the context of the COVID-19 pandemic.

ECDC and the EU bio-defence preparedness plan against SARS-CoV-2 variants (as part of the European Health Emergency Preparedness and Response Authority Incubator)

ECDC awarded more than EUR 77 million worth of grants to 24 EU/ EEA countries to strengthen whole genome sequencing (WGS) and diagnostics infrastructure within national public health programmes. This action was co-designed with the countries and targeted primarily to early detection and monitoring of SARS-CoV-2 variants. Moreover, improving the infrastructure and capacity in countries will contribute to preparedness for future health threats.

In conclusion, the Management Board welcomes the Consolidated Annual Activity Report 2021, which provides an excellent overview of the Centre's achievements as set out in the Single Programming Document (SPD) 2021-2023, adopted by the Management Board.

Foreword by the Chair of the Management Board

It is my pleasure to introduce the ECDC Consolidated Annual Activity Report 2021, which summarises the work ECDC carried out last year – the second year of COVID-19 pandemic characterised by variants of concern of the original SARS-CoV-2, and a number of COVID-19 specific vaccines entering national immunisation programmes. However, the work of the ECDC Management Board continued to focus on how ECDC delivered within its mandate, amended work plans, and how to prioritise non-COVID-19 related work.

Last year was the first year ECDC was implementing its Strategy 2021-2027. Although the pandemic hampered its implementation, ECDC delivered 74% of the outputs planned in its Single Programming Document 2021–2023. Nine percent of the planned outputs were postponed to 2022, while 16% were delayed or had not yet started at the year-end 2021.

I would like to highlight some of the Centre's non-COVID-19 achievements:

ECDC held its **Third Joint Strategy Meeting** with key stakeholders in the period June-September 2021, with a series of workshop discussions in the areas of digitalisation of EU surveillance, ECDC role in the prevention, EU standards for emergency preparedness, ECDC's role in the global health security, and getting closer to the EU Member States. This meeting series provided an excellent opportunity for open and strategic discussions between ECDC and its main stakeholders and will guide the implementation of the ECDC amended mandate in the future.

ECDC Fellowship Programme was successfully transformed to virtual training and cohorts 2020 and 2021 received their training modules as planned. In 2021, 33 fellows graduated, and at the year-end 71 fellows were enrolled (33 from cohort 2020 and 38 from cohort 2021).

ECDC Communication Policy 2022–2027 was developed, and the Management Board approved it in their meeting in November. This was an important milestone, as the ECDC role in communicating to the general public had been debated in the Management Board several times over the years. With the agreement on the Communication Policy, the general public becomes one of ECDC's target audiences. A convincing approach to communication is a strong force against misinformation and scepticism towards scientific evidence.

Regarding ECDC's work supporting EU/EEA Member States and the EU Institutions in the COVID-19 response, the Centre conducted and published **22 rapid risk/outbreak assessments**, half of which (11) assess different phases and developments in the COVID-19 pandemic. In 2021, ECDC continued to produce the maps in support of the Council Recommendation on a coordinated approach to travel measures in the EU, published also on the ECDC website.

Also related to the ECDC COVID-19 work, the Management Board twice approved an amended annual work plan for 2021 and approved an amended financing decision four times. Furthermore, the MB gathered for an extraordinary meeting to discuss the ECDC grant-based programme in support to the European Health Emergency Preparedness and Response Authority Incubator, for the EU/EEA Member States to strengthen their capacities and capabilities for whole genome sequencing before finalising the budget decisions.

Finally, the ECDC Management Board continued to follow up the negotiations on the ECDC amended Founding Regulation. Since the political agreement on the text has been reached, it is now awaiting adoption. Implementation of the amended mandate will challenge both the staff of ECDC and the Management Board and provide a unique opportunity to make the Agency fit for the demands of the future.

Dr Anni-Riitta Virolainen -Julkunen, Chair of the ECDC Management Board

2 March 2022

Introduction by the Director

Year 2021 was the second full year of the COVID-19 pandemic, and I would like to start by thanking colleagues in Member States for their contributions and openness in our mutual dialogue, colleagues and partners in the EU and beyond for their collaboration during the year, and all ECDC staff for their stamina and dedication.

In my view, this Consolidated Annual Activity Report successfully describes all aspects of the work ECDC conducted in 2021; the COVID-19 response under the PHE modus operandi, the non-COVID-19 related scientific work, and the work ensuring that the organisation functions smoothly, effectively, and efficiently respecting the regulatory boundaries in place.

I would like to elaborate on two areas of COVID-19 related actions, which largely defined the ECDC work during 2021 and also provided possibilities for the future.

The first one is the emergence of new variants of the SARS-CoV-2 and the need to ensure that the capacity to detect possible new variants early enough and to monitor them exists in EU/EEA countries. To this end, the European Commission tasked ECDC with supporting countries to improve their capacities and capabilities on WGS. In September 2021, ECDC awarded more than EUR 77 million worth of grants to 24 EU/ EEA countries, based on proposals from the countries to strengthen WGS and diagnostic infrastructures. I would like to thank all parties involved for co-creating and implementing this important action, which is also a preparedness investment for the future.

The second is related to COVID-19 vaccine uptake in the countries, as in 2021 COVID-19 specific vaccines entered the market and immunisation programmes became a cornerstone in the fight against the spread of the SARS-CoV-2. Supporting countries to reach the EU target set for vaccine coverage became one of the main goals of ECDC work and bringing the knowledge of behavioural science to counteract vaccine hesitancy and disinformation around vaccines and immunisation was an important part of it. Therefore, an initiative was undertaken to support 11 Member States with COVID-19 vaccination uptake lower than the EU average was taken. A series of bilateral meetings were held with the relevant authorities and experts, and follow-up activities were developed. In this context I visited three countries, which provided me with good insights on the issues countries encounter in increasing vaccine uptake. These activities will continue in 2022.

For me these two COVID-19 related activities have shown new ways how ECDC can come closer to Member States and find novel ways of working together, based on the needs expressed by countries. We will learn from these activities and further develop ECDC's work, in particular in the context of the implementation of ECDC's amended Founding Regulation, once it is agreed upon.

The pandemic has also shown the importance of having international partners to exchange information in a swift and transparent manner. In 2021, ECDC concluded three important bilateral agreements, namely with the Ministry of Health of Mexico, the Health Security Agency of the United Kingdom, and the Korea Disease Control and Prevention Agency. Furthermore, 2021 was the first year of the development of a long-term partnership with the Africa CDC in the form of a joint project covering areas of preparedness, surveillance, and workforce capacity building, financed by the European Commission.

I believe that the work carried out in 2021 and the variety of discussions we have been able to conduct with our main partners and stakeholders (e.g., during the third Joint Strategy Meeting) will help us in the implementation of the amended mandate and in transforming the organisation to be ready for future challenges.

Andrea AMMON, ECDC Director

4 March 2022

Executive summary

Agency in brief

Legal and procedural background

This document is based on Regulation (EC) No 851/2004 of the European Parliament and of the Council of 21 April 2004, Article 14.5(d): The Board shall adopt the Director's Annual Report on the Centre's activities for the past year by 30 March. Following its fifty-fourth meeting on 23 March 2022, the Management Board approved the final version of the Consolidated Annual Activity Report 2021.

Mission statement

The Centre's mission is set out in Article 3 of the Founding Regulation[1], which states that:

'The mission of the Centre shall be <u>to identify, assess and communicate current and emerging threats to human health from communicable diseases</u>. 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.'

The Centre's mandate is derived from Article 168 of the Treaty on the Functioning of the European Union (EU), with an overarching principle of ensuring a high level of human health protection in the definition and implementation of all Union policies and activities.

Key tasks of ECDC include:

- Operating dedicated surveillance networks;
- Providing scientific opinions and promoting and initiating studies;
- Operating the Early Warning and Response System;
- Providing scientific and technical assistance and training;
- Identifying emerging health threats;
- Collecting and analysing data;
- Communicating on its activities to key audiences.

ECDC vision

To improve lives in Europe and globally applying scientific excellence, thus empowering the Member States, the European Commission, and other partners to drive public health policy and practice.

Strategic work areas

The ECDC 2021-2027 strategy is structured into five strategic objectives:

Strategic objective 1: Strengthen and apply scientific excellence in all ECDC activities and outputs to inform public health policy and practice.

This strategic objective focuses on the setting and promotion of standards, the provision of evidence and guidance for public health policies and practice, the development and implementation of methodologies to increase the impact of public health actions in the field of communicable disease prevention and control, and the knowledge transfer aimed at bridging the gap between science, policy and practice.

Strategic objective 2: Support the countries to strengthen their capacities and capabilities to make evidence-based decisions on public health policies and practices.

Disease-specific work is at the core of fulfilling this strategic objective, with a focus on the prevention of infectious diseases. This strategic objective tackles the use of country information to improve country support, as well as the support to prevention and control programmes, training and emergency preparedness in EU Member States.

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[1] 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, Official Journal of the European Union. 2004; L 142:1–11.

Strategic objective 3: Future outlook: Prepare for the future through foresight and innovation assessments.

This strategic objective is focused on applying foresight methods to identify and address knowledge gaps and areas of uncertainty, engaging with EU research and innovation initiatives and supporting transformation by assessing the impact of new technologies and methods.

Strategic objective 4: Increase health security in the EU through strengthened cooperation and coordination between ECDC and partners in non-EU countries.

This strategic objective is delivered through developing and implementing programmes to support the Western Balkans, Turkey and European Neighbourhood Policy (ENP) partner countries and ensuring collaboration and coordination with major Centres for Disease Prevention and Control and international partners, as well as coordination with EU Institutions towards the achievement of common objectives.

Strategic objective 5: Transform the organisation to the 'next generation' ECDC.

This strategic objective is focused on increasing organisational effectiveness and efficiency, ensuring staff engagement and enhancing the transparency, visibility and availability of ECDC's outputs.

Organisational structure

The ECDC organisational structure[1], in force since January 2020, consists of three operational units, two service providing units and the Director's Office. The Disease Programmes (DPR) Unit delivers the disease-specific part of empowering ECDC's partners to drive public health policy and practice. A major part of ECDC's outputs come from this Unit, guided and supported by the Scientific Methods and Standards (SMS) and Public Health Functions (PHF) Units. The SMS Unit leads the processes for strengthening the scientific excellence and the dissemination of knowledge within the organisation and to partners, including the quality assurance of ECDC's scientific work and the organisation of the ESCAIDE conference. The Public Health Functions Unit is responsible for the delivery of ECDC's statutory public health functions surveillance, training and emergency preparedness and response support and works closely with the disease programmes, providing the data and systems required for the respective disease-specific outputs.

The Director's Office, the Resource Management Services and the Digital Transformation Services Units support the achievement of the objectives of the abovementioned operational units. The Director's Office oversees the implementation of the Centre's strategy and coordinates the Centre's strategic relationships with its governing bodies and other external stakeholders in and outside of the EU. The Resource Management Services Unit ensures the efficient management of the human and financial resources of the Centre, as well as of its premises. It provides procurement, legal, meetings organisation and travel arrangement services to the organisation. The Digital Transformation Services Unit delivers advice and studies, software products, development expertise, front-end services, application hosting and enterprise infrastructure services in support to ECDCs' core missions and administration.

In October 2021, a new structure of the DPR Unit was put in place, regrouping the previously existing seven disease programmes into four sections: Antimicrobial Resistance and Healthcare-Associated Infections, Epidemic Prone Diseases, STI, Blood-Borne Viruses and TB, and Vaccine Preventable Diseases and Immunization. While this change will not have a direct impact on the scientific outputs of the Centre, nor on the relationships with its main stakeholders, it will allow for more efficient ways of working through better distribution of the managerial tasks and coordination of the core work of the unit.

The structure of this report reflects the structure of the ECDC Single Programming Document 2021-2023. The achievements of the Centre are presented in accordance with the ECDC strategy 2021–2027[2] structure.

2021 in brief

In 2021, ECDC delivered 74% of the outputs planned in its Single Programming Document 2021–2023. Nine per cent of the planned outputs were postponed to 2022, while 16% were delayed or had not yet started at the end of 2021. Most of the delays in delivering the planned 2021 outputs were due to the high COVID-19 pandemic-related workload at ECDC, in Member States and/or partner organisations (for details see *Annex I Core business statistics 2021*).

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[1] See Annex III. Organisational chart, of this document.
[2] ECDC Strategy 2021-2027 available from: https://www.ecdc.europa.eu/en/publications-data/ecdc-strategy-2021-2027

Work on the COVID-19 pandemic

Throughout 2021, for the second consecutive year, the ECDC public health emergency (PHE) plan in response to the continuing COVID-19 pandemic was maintained at the maximum level of alert. ECDC had started operating at PHE level 2, acute phase on 31 January 2020 and continues operating in this phase at the time of preparing the present report.

During 2021, ECDC efforts in curbing the pandemic included the following:

*   Surveillance strategies in different settings, such as long-term care facilities, and transition from emergency COVID-19 surveillance towards routine surveillance, covered in a number of rapid risk assessments and technical reports. Focus on methods for detection and characterisation of the virus, as well as laboratories capability and capacity;
*   Vaccination strategies and vaccine deployment plans, resulting in a number of technical reports and guidance, as well as the release of visual dashboards such as the Vaccine Tracker, operational since February 2021;
*   Behavioural insights into vaccination acceptance and uptake, as well as strategies to counter vaccine misinformation, covered in a series of technical reports and infographics;
*   Follow-up and assessment of variants of interest (VoI) and variants of concern (VoC), resulting in the production of timely rapid risk assessments, threat assessment briefs, and technical reports, as well as the SARS-CoV-2 variants dashboard (available since May 2021), providing an overview of the proportion of variants of concern and variants of interest in EU/EEA Member States.
*   Predictive modelling and forecasting, resulting in the establishment of a COVID-19 forecasting hub in April 2021.

In order to support all the above-listed activities and address the incoming requests from stakeholders, ECDC maintained a robust response duty roster, as well as disease programme duty rosters and functional teams, such as the Infection Prevention Control/Non-Pharmaceutical Interventions (IPC/NPI) team. Overall, the Centre conducted and published 22 rapid risk/outbreak assessments (RRA/Rapid Outbreak Assessment), half of which (11) assessed different phases and developments in the COVID-19 pandemic and responded to over 600 requests from stakeholders (European Commission, Member States and the media). The production of the weekly COVID-19 policy briefs initiated in September 2020 continued throughout 2021. Also, the maps in support of the Council Recommendation on a coordinated approach to travel measures in the EU and the Weekly Country Overview Report continued being regularly published on the ECDC website.

To meet the urgent need to strengthen Member States capacity for detecting and monitoring new variants of the SARS-CoV-2 virus, ECDC set up an emergency contract to support, in particular but not exclusively, Member States with limited or no whole genome sequencing capacity in 2020. In collaboration with the European Commission, a second contract for whole genome sequencing services became operational in March 2021, providing support to all countries for sequencing of SARS-CoV-2 positive isolates. More than 120 000 samples from 11 EU/EEA Member States and four Western Balkan countries were processed between February and December 2021.

Along with the direct sequencing services, ECDC initiated the implementation of the laboratory capacity building activities under the EU Health Emergency Preparedness and Response Authority Incubator Action Area 1: Rapid detection of SARS-CoV-2 variants. In September 2021, ECDC awarded more than EUR 77 million to 24 EU/EEA countries to strengthen whole genome sequencing and RT-PCR infrastructures within the countries' national public health programmes. The immediate objective was to reinforce countries' capacities for early detection and enhanced monitoring of emergent and known SARS-CoV-2 variants. The implementation of the infrastructure and activities funded by ECDC grants started already in 2021 and will finalise by September 2022.

Work on the ECDC strategy 2021-2027: main achievements

Despite the challenge that the COVID-19 pandemic continued to present in 2021, ECDC managed to produce most of its regular outputs:

*   ECDC updated its Surveillance Atlas of Infectious Diseases with 2020 data and published 30 Annual Epidemiological Report chapters covering 2018, 2019 and 2020;
*   Regular epidemiological updates for threats under mid- (one to six months) and long-term monitoring (more than six months) were published on the ECDC website through the weekly Communicable Diseases Threats Report (CDTR);
*   ECDC continued producing independent and evidence-based scientific advice. The Centre published 74 technical reports/guidance documents and 74 peer-reviewed articles in scientific journals;
*   Training of cohorts 2020 and 2021 of the ECDC Fellowship Programme was delivered as planned. In 2021, 33 fellows graduated. At the end of the year, 71 fellows were enrolled (33 from cohort 2020 and 38 from cohort 2021);

- All ECDC hallmark events were successfully organised: the ESCAIDE conference (16–19 November), with the highest number of registrations to date; the digital campaign marking the European Antibiotic Awareness Day (18 November); the ECDC session at the European Health Forum Gastein (EHFG) 2021 (28 September).

In the area of surveillance, ECDC concluded the four-year EPHESUS project after 50 EU/EEA public health surveillance system evaluations, with findings that will be instrumental in developing EU/EEA surveillance standards. The EpiPulse portal allowing ECDC and Member States users to perform all surveillance operations from one single entry point, was launched in June 2021.

In 2021, ECDC implemented automatic, electronic health record-based surveillance of Severe Acute Respiratory Infections (SARI) in seven EU/EEA Member States, with a view to continue implementing SARI surveillance in a larger number of countries, and to pilot this type of surveillance for other priority diseases.

2021 marked the 25th anniversary of the *Eurosurveillance* journal with various events and special edition publications.

As part of the targeted country support work of the Centre, an initiative aimed at supporting the 11 Member States with COVID-19 vaccination uptake lower than the EU average was initiated.

During 2021, ECDC actively participated in the implementation of the European Health Data Space (EHDS), providing the European Commission with requirements for EU level surveillance and with a use case to be piloted in 2022. ECDC also started to prepare for the takeover of the European Federation Gateway Service (EFGS), the technical backbone of the contact tracing apps used by Member States, initially implemented by the European Commission.

In the area of support to Western Balkan countries, Turkey and ENP countries, the projects funded with European Commission grants continued: 'Preparatory measures for the participation of the Western Balkans and Turkey in the European Centre for Disease Prevention and Control with special focus on One-Health against antimicrobial resistance (AMR) and enhanced SARI surveillance, 2020 – 2024' and 'EU Initiative on Health Security". In addition, the "EU for health security in Africa: ECDC for Africa CDC' project started in January 2021.

In the area of communication, while ECDC continued having a high level of attention in traditional media, social media and through its websites, there was a noticeable decrease in some of the communication indicators, which is the result of the natural evolution of the COVID-19 pandemic and its impact on ECDC's target audiences' interest. Nevertheless, all figures remain significantly higher if compared with those from before the pandemic. The latest ECDC Communication Policy was developed and approved in 2021, with the purpose of defining the actions and lines of work of ECDC in the area of communication for the period 2022-2027.

ECDC held its Third Joint Strategy Meeting with key stakeholders in the period June-September 2021, with a series of fruitful discussions in the areas of digitalisation of EU surveillance, prevention, EU standards for emergency preparedness, ECDC's role in the global health security and getting closer to EU Member States.

Other ECDC areas of activity: ECDC's strengthened mandate

In November 2020, the European Commission presented a proposal to expand the legal mandate of ECDC. First, a draft Regulation changing ECDC's current Founding Regulation was announced, which contains changes that reinforce the ECDC mandate so that the Centre may support Member States and the Commission in the following areas:

- epidemiological surveillance via integrated systems enabling real-time surveillance;
- preparedness and response planning, reporting based on defined indicators;
- provision of non-binding recommendations and options for risk management;
- capacity to mobilise and deploy EU Health Task Force to assist outbreak/emergency response in Member States and in third countries;
- build a network of EU reference laboratories and a network for substances of human origin.

After a series of interinstitutional negotiations in the so-called trilogues between the European Commission, the European Parliament and the Council of the EU, on 29 November 2021, the European Parliament and the Council reached a political agreement on a reinforced role for ECDC. The formal adoption of the changes to the ECDC Founding Regulation is foreseen to happen once the agreement on proposal on the Regulation on Serious Cross Border Threats to Health has been achieved between the Council and the European Parliament, expected to take place during the first half of 2022.

Part 1. Policy achievements

Multiannual indicators

No.	Strategic Key Performance Indicator	Baseline	Target	Verification	Result 2021
1.	**Use of reliable evidence, ECDC scientific advice, recommended methodologies, tools and ECDC outputs for decision-making in EU Member States** - • Accessibility of methods, tools, outputs, data and evidence; • Use of methods, tools, outputs, data and evidence; • Satisfaction with methods, tools, outputs, data and evidence.	NA	-TBC -TBC -70%	Stakeholder survey or existing survey used for network meetings	Not measured. ECDC Stakeholder survey will be carried out in 2022
2.	**Level of capacity reached compared to target, following ECDC standards applied through technical assistance to Member States** (measured through EULabCap, Preparedness and other assessment tools): • Level of public health microbiology system; • Capability/capacity: • EULabCap Index for EU/EEA countries (mean national EULabCap index + potentially inter-country index variation); • Level of public health preparedness capacity.	for EULabCap: 7.8 mean national index (2018) tbc	0.3 points increase compared to previous period	EULabCap, International Health Regulations or State Party Self-Assessment Annual Report / Joint external evaluation	Not measured. EULabCap survey not performed in 2021 Public health preparedness capacity indicator to be reviewed after approval of new ECDC mandate
3.	**Degree of implementation of post-COVID19 enhanced preparedness framework /stakeholder satisfaction with preparedness outputs as part of COVID19 response**	NA/ 50% (2020 McKinsey survey)	100%/ 70%	Internal monitoring/ Stakeholder survey	To be reviewed after approval of new ECDC mandate/Not measured. ECDC stakeholder survey will be carried out in 2022
4.	**Percentage of countries visited by ECDC upon their demand compared to target** (based on the needs and the requests on any topic in the mandate of the Centre); could be virtual or physical country visits	tbc	100%	Internal monitoring	100%
5.	**Number or % of ECDC foresight outputs used by Member States**	NA	70%	Stakeholder survey	Not measured. ECDC Stakeholder survey will be carried out in 2022
6.	**Number or % of ECDC guidance and expert opinions that identify specific knowledge gaps that could be addressed through research**	NA	100%	Internal monitoring	Not measured. ECDC scientific advice process and outputs under revision in consultation with the AF
7.	**Degree of implementation of enhanced post-COVID-19 surveillance framework/ Stakeholder satisfaction with digitalisation of surveillance work**	NA/69% (2020 McKinsey survey)	100%/ 70%	Internal monitoring/ Stakeholder survey	Not measured. ECDC Stakeholder survey will be carried out in 2022
8.	**Degree of implementation of the joint action plans with international partners** (other CDC, WHO, etc.)	74% (2019 WHO joint action plan)	100%	Internal monitoring	85% of activities defined by Joint Coordination Group with WHO implemented
9.	**Stakeholder satisfaction with coordination of activities with other EU institutions and bodies**	NA	70%	Stakeholder survey	Not measured. ECDC Stakeholder survey will be carried out in 2022
10.	**Decrease in duration of core process instances over time** – RRA, AER, other scientific outputs (average % of decrease)	tbc	10% decrease	Internal monitoring	Not measured
11.	**Overall staff satisfaction**	51%	75%	Staff survey	61%
12.	**Overall stakeholder satisfaction**	NA	75%	Stakeholder survey	Not measured. ECDC Stakeholder survey will be carried out in 2022

TBC – to be confirmed

1. Strategic objective 1. Strengthen and apply scientific excellence in all ECDC's activities and outputs to inform public health policy and practice

1.1 Standards: promote standard setting to facilitate the use of data and the implementation of public health policies in practice

In 2021, in consultation with the ECDC Advisory Forum, ECDC developed a policy for scientific integrity and independence, which will be made available on the Centre's website following approval by the ECDC Management Board.

In the area of surveillance, ECDC concluded the four year EPHESUS project after 50 EU/EEA public health surveillance system evaluations. Some of the findings will be instrumental in developing EU/EEA surveillance standards (notifiable diseases, surveillance objectives, system design and common practice, datasets to be reported, etc.) in the years to come.

In response to the COVID-19 pandemic, ECDC published an updated COVID-19 surveillance guidance. In addition, a first new set of standards including a common reporting protocol was agreed for the surveillance of Severe Acute Respiratory Infections (SARI). Weekly data submission was technically implemented, and at the end of 2021, four EU/EEA countries and two non-EU/EEA countries of the WHO European Region had started reporting regularly to ECDC.

1.2 Evidence: provide partners with robust evidence and guidance for public health policies and practice

Throughout 2021, the Centre continued threat detection through event-based surveillance, expanding the range of data sources. Surveillance and epidemic intelligence were further integrated to enhance the detection, validation and assessment of signals, particularly in response to the great amount of COVID-19 data being generated.

ECDC updated its Surveillance Atlas of Infectious Diseases with 2020 data and published 30 Annual Epidemiological Report chapters covering 2018, 2019 and 2020.

Enhanced surveillance reports were published for tuberculosis and HIV/AIDS jointly with the WHO Regional Office for Europe. Annual epidemiological reports were published for hepatitis B and C and for tuberculosis. For hepatitis, ECDC worked on improving the data for surveillance and monitoring by implementing several projects such as conducting sero-prevalence surveys. ECDC also evaluated the use and usefulness of the hepatitis online prevalence database.

ECDC published the third report on the Joint Interagency Antimicrobial Consumption and Resistance Analysis (JIACRA) jointly with EFSA and EMA. Work on the first ECDC- WHO Regional Office for Europe joint report on AMR surveillance in Europe (2020 data) took place throughout 2021 and the report was published on 26 January 2022.

ECDC continued to provide technical support to public health reference laboratory networks across the EU/EEA and enlargement countries, considering WHO networks' reference laboratory activities. The Centre continued benchmarking microbiological capacities in countries, facilitating the development of rapid communication of laboratory-based information for surveillance and alert, and supporting Member States in strengthening their microbiology capacity, based on gaps identified by the EULabCap indicators and EQA schemes. ECDC offered also need-based sequencing support to Member States that have not yet fully transitioned to WGS-based surveillance. During 2021, ECDC offered high-capacity sequencing support to Member States to enhance their immediate capacity to detect and monitor SARS-CoV-2 variants, under the EU bio-defense preparedness plan against SARS-CoV-2 variants. ECDC and the European Commission are continuing to provide EU/EEA Member States and Western Balkan countries with access to outsourced whole genome sequencing services for SARS-CoV-2 samples. More than 120 000 samples from 11 EU/EEA Member States and four Western Balkan countries were processed between February and December 2021. Timely and secure WGS data sharing and storage are secured by customised protected workspaces for WGS data management.

In 2021, ECDC provided continuous support to the European Health and Digital Executive Agency and their contractors in the EURGen-RefLabCap and FWD AMR RefLabCap projects. This support consisted of strengthening the coordination, support and capacity building in national microbiology reference laboratory functions, for testing

and surveillance of antimicrobial resistance in priority healthcare-associated infections and in *Salmonella* and *Campylobacter* in human samples, respectively. ECDC continued to collaborate with EFSA on the detection and public health risk assessment of foodborne outbreaks. Work on a new integrated system for WGS data exchange and analysis is ongoing.

ECDC continued to coordinate the European Reference Laboratory Network for TB (ERLTB-Net) and together with the implementing consortium a network meeting, external quality assessment and capacity building activities were organised. Additionally, for gonorrhoeal antimicrobial resistance, an external quality assessment was carried out with Member States National Reference Laboratories and the reports with the results for the 2019 and 2020 round were published.

1.3 Methodologies: contribute to the development and implementation of methodologies to increase the impact of actions targeted to reduce the burden of infectious diseases

Throughout 2021, the Centre further improved its Scientific Advice Repository and Management System and continued managing and monitoring all its scientific outputs ensuring quality and timely delivery. ECDC strengthened its internal capacities and capabilities for in-depth and advanced bio-statistical and mathematical modelling analyses, contributing high-quality technical input to COVID and non-COVID work and outputs.

1.4 Knowledge transfer: bridge the gap between science, policy, and practice to ensure sustainable impact on prevention and control of infectious diseases

ECDC is working to develop a Knowledge Management framework to facilitate the management of knowledge assets that are critical to the mission of ECDC (instructional documents, governance documents etc). Work has progressed on putting mechanisms in place to support knowledge sharing through structured conversation/dialogue (both internally and with external parties). This includes proposals for the development of communities of practice, and changes to the ECDC website to improve the ability to find guidance, advice and information more easily.

Additionally, work was started on ECDC's Enterprise Content Management Platform, a unified portal of information held within the Centre's electronic document repositories and the content management systems for the ECDC 'Intranet' and 'Extranets'. The ECDC Information Asset Catalogue was rethought and improved to provide a foundation for more effective content management within ECDC and with external stakeholders.

As a publicly-funded agency, ECDC makes sure that its scientific output is freely available, both on its website and in scientific journals. Open access journals are considered the 'gold-standard'. In 2021, over 99% of ECDC publications in peer-reviewed journals were in those that were open access, demonstrating a continuous increase from the 2016 baseline (73%) for compliance with open access.

Figure 1. **Evolution of the rate of ECDC open access publications, 2016–2021**
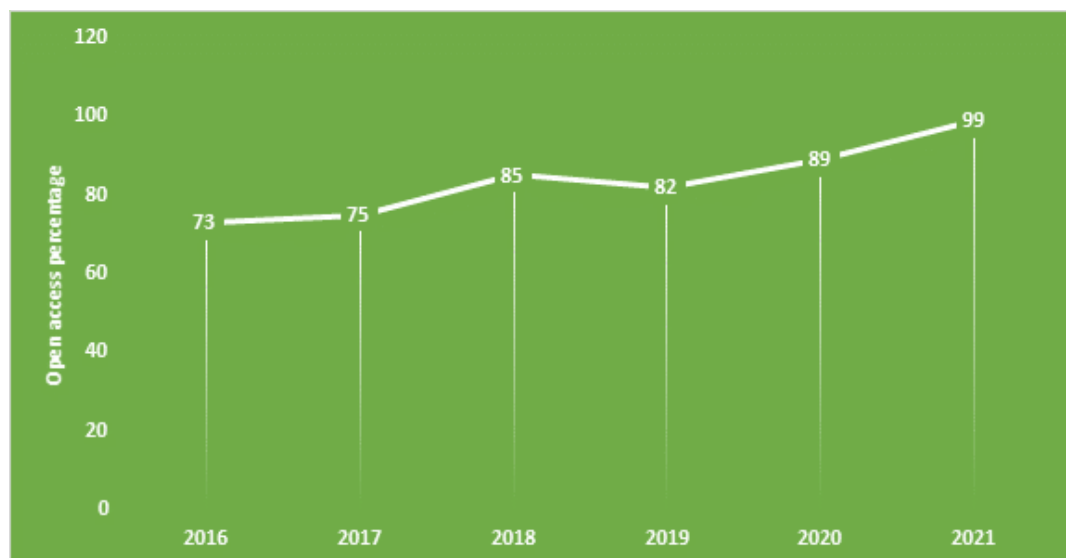
The journal Eurosurveillance has served public health experts/scientists and policy makers with high-quality, open access information and data relevant for timely public health action since 1996. In the production of the journal, the editorial team applies intensive quality control to ensure that the widely accessible and distributed scientific information is sound, reliable, understandable, and actionable for a diverse audience. 2021 marked the 25th anniversary of *Eurosurveillance* and its editors conducted a comprehensive campaign showcasing '25 years of public health impact'. This campaign encompassed a dedicated page with a special collection[1], and links to presentations[2] and videos illustrating the journey, achievements, and impact of the journal in the past and present. The virtual anniversary seminar during the ESCAIDE conference was dedicated to 'Epidemiology and immunology – from observation to explanation and public health action'[3]. Renowned international speakers covered aspects of influenza, measles, and COVID-19, and nearly 600 participants followed live. Further increased social media activities resulted in increased engagement and the journal editors had an active role as facilitators or speakers, for example during the European Congress of Clinical Microbiology & Infectious Diseases (ECCMID), EASE (European Association of Science Editors Conference), the ESCAIDE conference and a seminar at a national public health institute. Eurosurveillance continued to rank among the leading journals in its field. It was awarded an Impact Factor (IF) of 6.3 (6.4 in 2020). This placed the journal among the 'Top 10' of infectious disease journals for the 10th consecutive year. To complete the metrics picture: the SCImago Journal Rank has the journal listed at rank 85 among 2 448 journals in the category 'medicine miscellaneous'. The Scopus-based CiteScore was 13.9 and Eurosurveillance was in the 98% percentile of journals in the category Public Health, Environmental and Occupational Health.

Eurosurveillance editors held seminars and workshops on topics related to science reporting (how to get published, use of reporting guidelines) and publishing (pre-prints) as part of capacity-building activities. During a series of consultation meetings and the full board meeting, the milestones and key deliverables for the journal's long-term strategy 2021−27 and new policies were endorsed, such as publishing the board members' annual declarations of interest on the journal's website to increase transparency.

Figure 2. *Eurosurveillance* 25th anniversary special collection cover page

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[1] https://www.eurosurveillance.org/content/eurosurveillance--1996-to-2021--25-years-of-public-health-impact
[2] https://www.eurosurveillance.org/25years
[3] https://www.eurosurveillance.org/seminar#2021

The European Scientific Conference on Applied Infectious Disease Epidemiology (ESCAIDE) brought together professionals in the EU/EEA and globally, to share scientific knowledge and experience in infectious disease epidemiology, public health microbiology and related scientific fields. In 2021, ESCAIDE was held entirely online for the second year in a row. With over 3 000 registrations from across Europe and the world it was the biggest conference to date, and user feedback indicated that participants rated the relevance, organisation and scientific quality of the conference as being very high.

Strategic objective 1. Performance indicators

Action Area	Objective	Performance indicator	Target	Verification	Result 2021[1]
1.1	**Operationalise the results of the EPHESUS project and the lessons learnt from the COVID-19 pandemic**	Number of diseases for which surveillance standards are available	2021: standard for integrated surveillance of pandemic-prone respiratory viruses (flu, COVID-19) published on website	Publication of standard on ECDC's website	●● COVID-19 surveillance guidance Standard SARI surveillance protocol agreed with Member States.
1.1	**Identify and define existing methods that should be used to establish standards for scientific processes and outputs to identify, assess, prevent and control infectious disease threats to public health**	Publication of defined methods: implementation according to project plan (schedule, resources, and scope)	Publication in Q4 2021 Less than 20% deviation from the duration, resources, and scope of the initial baseline	Publication of defined methods on website Quarterly ECDC Portfolio Steering Committee reporting	●● Based on lessons learned during the pandemic and in the context of the new mandate, ECDC initiated the work on revising its scientific advice processes and outputs. ● Implementation on schedule.
1.1	**Ensure and demonstrate scientific independence in all ECDC activities in consultation with relevant stakeholders** [on standards for safeguarding and demonstrating scientific independence]	Position paper for Advisory Forum: implementation according to project plan (schedule, resources, and scope)	Standards endorsed by Advisory Forum in Q4 2021 Less than 20% deviation from the duration, resources, and scope of the initial baseline	Advisory Forum minutes Quarterly ECDC Portfolio Steering Committee reporting	● The ECDC Policy on Scientific Integrity and Independence was discussed at the ECDC Advisory Forum and submitted to the Management Board for approval. ● Implementation on schedule.
1.2	**Ensure timely and effective monitoring of potential threats from infectious diseases**	Proportion of stakeholders (European Commission + Member States) positively rating the daily and weekly CDTR and the RRA.	80%	Standard survey conducted during NFP meeting	● Events and threats have been monitored and outputs produced. No survey was conducted.
1.2	**Carry out routine indicator-based surveillance, including generation of high-quality, relevant, and timely outputs**	Time from the closure of Member States data collection to the publication of the results in the Surveillance Atlas Proportion of diseases in the Atlas with updated data of N-1	Three months 80%	TESSy Statistics from Atlas	● Achieved. ● 80%
1.2	**Coordinate EU level surveillance of all EU notifiable diseases and special health issues (incl. coordinated lab support).**	Proportion of surveillance reports published according to agreed timelines	90%		● Achieved – 100%
1.2	**Provide evidence to support Member States to increase public health microbiology capacity**	Proportion of countries reaching sufficient capacity for at least 10 out of 12 microbiology system targets in the EULabCap assessment	75%	EULabCap surveys	● In consultation with Member States it was decided that the EULabCap tool is to be updated and that next survey will be run in 2022.

[1] Colour legend for all KPI results throughout the report:

● *Target achieved*

● *Target partially achieved, or KPI not measured*

● *Target not achieved*

Action Area	Objective	Performance indicator	Target	Verification	Result 2021[1]
1.2	**Produce consistently high-quality scientific work and advice within agreed deadlines to support evidence-informed decision and policy making**	Proportion of scientific outputs in the planned publication list delivered within the programming year Uptake of ECDC outputs by its stakeholders	90% 70%	Comparison between list published on ECDC website and list of outputs published on the website by 31 Dec. Stakeholder survey or standard survey conducted during NFP meetings	● Not measured in 2021, since no publication list was prepared in 2021 due to COVID-19. ● Stakeholder survey will be conducted in 2022.
1.2	**Ensure that all public health-related ECDC actions, are reviewed through the IRIS instrument for consultation on priority-setting**	Proportion of public health-related actions in the SPD presented to Advisory Forum as IRIS proposals	80%	Presentation of IRIS proposals to Advisory Forum compared to approved SPD 2021	● ECDC's IRIS 2.0 process for the prioritisation of scientific outputs with the ECDC Advisory Forum did not take place in 2021.
1.2	**Establish formalised mechanism for engagement with national Competent Bodies in establishing priorities for scientific advice and knowledge outputs** *(in coordination with 2.1)*	Consultation mechanism with Competent Bodies established for establishing priorities for scientific advice and knowledge outputs	Mechanism established	Minutes of first consultation meeting	● Postponed to 2022.
1.2	**Establish a repository for collation of quality-assured guidance developed by national authorities and professional bodies in EU Member States**	Repository for quality-assured guidance: Implementation according to project plan (schedule, resources, and scope)	Repository available on ECDC website in Q4 2021 Less than 20% deviation from the duration, resources, and scope of the initial baseline	ECDC website Quarterly ECDC Portfolio Steering Committee reporting	● Repository not yet available. ● Postponed to 2022.
1.2	**Whole Genome Sequencing services**	Proportion of requests from Member States for sequencing services accepted by ECDC	100%	ECDC surveillance section statistics; invoices from contracted laboratory	● Achieved. More than 120 000 SARS-CoV-2 samples from 11 EU/EEA Member States and 4 Western Balkan countries
1.3	**Develop and assess standards and processes that support the transparent, consistent and efficient production and clearance of scientific work and advice.**	Proportion of ECDC scientific outputs processed through SARMS, following the respective workflows and template	90%	SARMS	● 100%
1.3	**Develop guidance on options and application of enhanced statistical methods for trend analysis of surveillance data**	Guidance document: implementation according to project plan (schedule, resources, and scope)	Less than 20% deviation from the duration, resources, and scope of the initial baseline	Quarterly ECDC Portfolio Steering Committee reporting	● Achieved. Publication in 2022.
1.3	**Further develop and deliver advice and support on evidence-based public health methods**	Proportion of participants that consider the training useful Proportion of Member States that consider the training useful	80% 80%	Course evaluations Assessment performed during the annual NFP meeting based on list of trainings conducted in year N-1	● No trainings took place in 2021 ● Not measured.
1.4	**Pilot knowledge management approaches for strengthening the community of practice within and outside ECDC**	Pilot for knowledge management: Implementation according to project plan (schedule, resources, and scope)	Pilot initiated in Q4 2021 Less than 20% deviation from the duration, resources, and scope of the initial baseline	ECDC annual report Quarterly ECDC Portfolio Steering Committee reporting	● Knowledge management framework for the Centre developed, including proposal for development of communities of practice.

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Action Area	Objective	Performance indicator	Target	Verification	Result 2021[1]
1.4	**Organise the annual European Scientific Conference on Applied Infectious Disease Epidemiology (ESCAIDE), in cooperation with Member States, the European Commission and other EU agencies, and include a 'knowledge for policy and practice' track at the conference**	Percentage of attendees that rate ESCAIDE as 'good' or 'excellent'	> 75%	ESCAIDE Programme and conference attendee satisfaction survey results	● 93% of respondents "very" or "extremely" satisfied with the event.
1.4	**Ensure production and wide dissemination of *Eurosurveillance* as a high-quality journal with good visibility**	Journal in the first quartile for all metrics among journals in its category (impact factor, cite score, SCImago).	First quartile	Basket of metrics (impact factor, SciMago journal rank, CiteScore percentile), Source: Claviate analytics, Scopus	● Impact Factor (IF) 6.3, which placed the journal among the 'Top 10' of infectious disease. SCImago Journal Rank 85 among 2,448 journals in the category 'medicine miscellaneous'. Scopus-based CiteScore (13.9): *Eurosurveillance* was in the 98% percentile of journals in the category Public Health, Environmental and Occupational Health.
		Articles submitted for publication from countries represented on the *Eurosurveillance* editorial board	60% from *Eurosurveillance* countries, and minimum two continents	*Eurosurveillance* submission system	● 85 countries submitted, from five continents. All but two *Eurosurveillance* countries submitted.
1.4	**Promote transparency and reproducibility in generating scientific information among *Eurosurveillance* contributors/ audience through respective editorial policies**	Proportion of submissions to *Eurosurveillance* with checklists (where applicable)\n\nProportion of relevant articles with genomic data deposited	> 90%,\n\n90%	Records in *Eurosurveillance* submission system	●● 89% (16/18 submissions from countries within the journal's scope including 4/4 articles in the workflow and 16/33 rejections); 15 of 17 rejected articles without submitted checklists were from lower- or middle-income countries outside the journal's scope.\n● Depositing of sequence data in published articles 100%.
1.4	**Develop communication formats and tools for effective delivery of information and evidence to specific audiences**	Pilot for a tailored communication model: Implementation according to project plan (schedule, resources, and scope)\nNumber of accesses to pilot communication model	Less than 20% deviation from the duration, resources, and scope of the initial baseline	Quarterly ECDC Portfolio Steering Committee reporting	● Public Health Emergency output toolkit developed, including guidance and templates to further improve the ECDC PHE outputs and in particular the summary/green box that is included in all Rapid Risk Assessments and other key scientific outputs.
1.4	**Strengthen the dissemination and communication of ECDC key scientific outputs to ensure they reach their target audience and are accessible at no cost for the user.**	Access to ECDC scientific outputs:\n• number of access\n• number of downloads\n• number of citations\n\n\nImpact factor of ECDC articles in peer reviewed journals\n\nProportion of ECDC peer reviewed articles available in gold standard open access	n/a\nn/a\n>20 in the 5 years following publication\n\n\n\n>5\n\n\n100%	Website statistics\nWebsite statistics\nECDC library bibliometric review\n\nECDC library bibliometric review\n\nECDC library bibliometric review	● 8 043 416 page views (43% decrease compared to 2020).\n● 406 545 PDF downloads in 2021, compared to 572 051 PDF downloads in 2020.\n● Average number of citations: 46.88\n\n● Impact factor: 11.30\n\n●● 99% compliance with ECDC open access policy.

2. Strategic objective 2. Support the countries to strengthen their capacities and capabilities to make evidence-based decisions on public health policies and practices

2.1 Country focus: use country information to better target ECDC activities and country support

Preparatory work continued during 2021 and, in addition, concrete targeted support to countries was initiated. The preparatory work was presented and discussed during the three meetings organised as part of the working group E in the Third ECDC Joint Strategy meeting (JSM) during June-September 2021.

Targeted country support focuses on work with the EU/EEA Member States and medium-term priorities. The primary contact points are the ECDC Coordinating Competent Bodies (CCBs) through the National Coordinators (NC).

Overall aimed at 'getting closer' to countries, targeted country support comprises five key pillars:

Country missions

During 2021, an internal procedure on country missions was adopted, based on an analysis of all country missions carried out by ECDC in the period 2015-2020. This is aimed to ensure a corporate, harmonised approach for country missions, and create a central repository for their reports, available on a bilateral basis to the respective Member States and to ECDC. This will make reports more easily retrievable to monitor any required follow-up. Country missions will be carried out at the invitation of a country or following a dialogue between ECDC and the country experts. ECDC will investigate implementing a consolidated programme of country visits with defined steps.

Country overviews

This pillar aims at collating, integrating, and analysing country-specific information from a variety of sources (by integrating internal quantitative and qualitative data and additionally data from external sources, such as WHO, OECD, Eurostat) in a more systematic approach to gain better understanding of the main strengths and vulnerabilities of Member States. It provides a comprehensive description and visualisation of information on communicable diseases complemented with information on the (public) health system and health status in the respective country. Such a user-friendly format enables further analysis, so that strengths, vulnerabilities, opportunities, and threats (SVOT) can be identified and discussed bilaterally with Member States. Data sources include ECDC, Eurostat and HiT online developed by the European Observatory on Health Services and Policies. Unstructured data comes from ECDC mission reports, meeting reports and it can be considered as 'soft knowledge' on Member States.
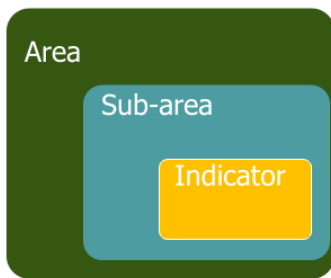
Work on country overviews progressed in 2021, structured along seven areas, each one including several sub-areas and a group of indicators. The first release is anticipated in 2022, starting with the areas of 'Country and health governance' and 'Workforce capacity'.

Figure 3. Country overviews structure

Targeted country support cycle and practical support

Discussions were initiated as part of the JSM meeting on how a dialogue between a Member State and ECDC can be done on a bilateral basis, to identify needs and agree on follow-up actions.

Facilitating internal processes including procurement to support targeted country support

Work on internal processes, including procurement options for targeted country support continued in 2021 to ensure that support activities e.g., workshops, exchange visits, consultancy are in place, as well as the possibility of offering support with translation in the national languages.

EU funding opportunities for Member States

As ECDC does not have the capacity to address all Member States' needs, because of insufficient resources or as the need is outside of its remit, a list of possible sources of EU funding will be compiled and shared with Member States, to facilitate participation in relevant EU projects for improving their health systems and indicators.

Figure 4. Targeted country support pillars
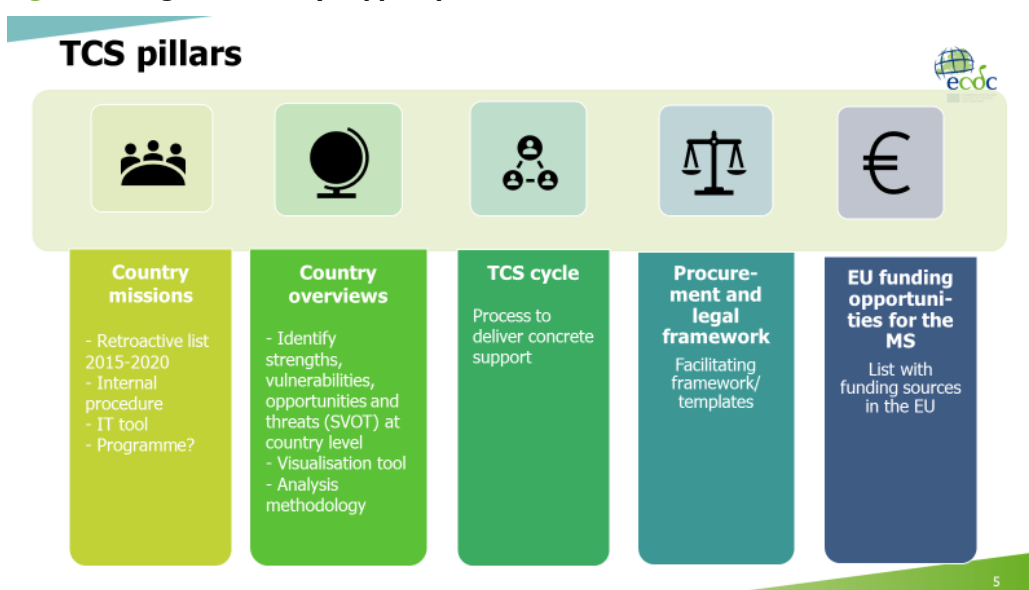
In terms of direct support to Members States, the project around providing short courses, including curriculum development for a training of frontline healthcare professionals in addressing vaccine hesitancy, vaccinology module via e-learning and communication for behaviour change module via blended format continued, even if at a lower speed due to COVID-19 related challenges. ECDC was working with the Association of Schools of Public Health in the European Region (ASPHER) on identifying training needs for frontline healthcare professionals and mapping existing courses in these areas. The project continues in 2022 with developing the actual training curricula and delivering the course, focusing on the communication module first.

In October 2021 the ECDC Director initiated a targeted country support initiative aimed at supporting 11 Member States with COVID-19 vaccination uptake lower than the EU average: Bulgaria, Czechia, Estonia, Croatia, Hungary, Lithuania, Latvia, Poland, Romania, Slovenia and Slovakia. A series of bilateral meetings were held with the CCB Directors and the national focal points for the ECDC vaccine-preventable diseases and immunisation programme and follow-up activities were initiated. The ECDC Director travelled to Bulgaria, Estonia and Latvia where she was involved in discussions with experts and media representatives. A webinar on social media and misinformation was organised in November 2021 in which three to four experts working directly on these topics were invited form each of the 11 Member States. Further activities are planned for 2022.

In the framework of ECDC TB country support, Member States were offered two workshops on active TB case finding and two countries received a consultancy. For the project on hepatitis C prevalence surveys, the needs assessment was completed and discussions with Member States on survey planning.

The foreseen country visits to enhance the prevention and control of AMR and improve the implementation and effectiveness of national action plans in line with the objectives set in Council Recommendation 2002/77/EC and the latest Council Conclusions on AMR, as well as the Global Action Plan on AMR (WHO), WHO's European strategic action plan on antibiotic resistance and the European One Health Action Plan on AMR, were postponed to 2022 due to the COVID-19 pandemic.

In 2021, ECDC continued the coordination and operation of 19 disease networks, including the recently created ECOVID-Net (established in 2020) and E-SARI-Net (established in 2021), and seven public health networks.

2.2 Prevention and control programmes: support and strengthen capacity to deliver programmes targeted at the prevention and control of infectious diseases

Strengthen ECDC's support to targeted prevention and control programmes

Based on robust surveillance data, ECDC continued to support countries to enhance their prevention and control programmes depending on the disease. The basis of this work was the production of timely and relevant evidence-based advice and risk assessments on communicable disease prevention and control to the European Commission and EU Member States.

Specific efforts included work to strengthen vaccination programme delivery and vaccine confidence, provision of guidance to develop evidence-based policies for prevention programmes on COVID-19, HIV, and TB, and antimicrobial stewardship and infection prevention and control-related activities in healthcare settings. Additionally, raising awareness of important public health issues through awareness campaigns e.g., European Antibiotic Awareness Day, World Antimicrobial Awareness Week, HIV/hepatitis Testing Week, World Hepatitis Day, World AIDS Day, World TB Day, European Immunisation Week, and Influenza Awareness Week and monitoring control programmes and country preparedness for a range of infectious disease threats like foodborne outbreaks and influenza also took place.

ECDC published technical guidance on HIV pre-exposure prophylaxis (PrEP). This guidance provides Member States with practical recommendations and key considerations to inform the development and implementation of PrEP programmes at national and sub-national levels. As a follow-up to this guidance, ECDC developed evidence-informed indicators for monitoring HIV PrEP programmes.

Figure 5. ECDC technical guidance on HIV pre-exposure prophylaxis (PrEP)
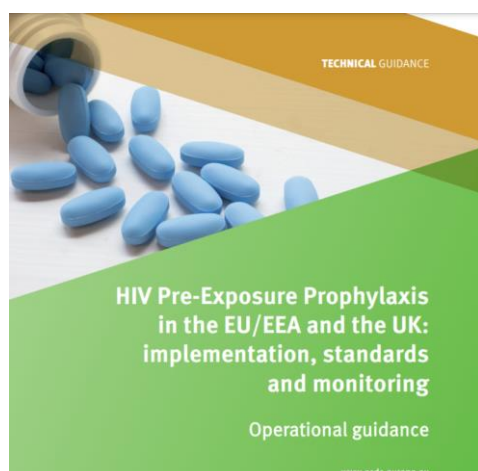
Throughout the COVID-19 pandemic, ECDC has provided relevant and high-quality data and scientific advice on COVID-19 prevention and control in support of the European Commission and EU Member States. With the introduction of COVID-19 brand-specific vaccines, the European monitoring platform was set up jointly with EMA to assess the impact and effectiveness of those vaccines as well as detect possible safety signals, which deserve further investigation. Several studies started in close collaboration with EU Member States and WHO EURO.

ECDC continued supporting the implementation of the 2018 Council Recommendation on Strengthened Cooperation against Vaccine-Preventable Diseases, with a special focus on COVID-19 and influenza vaccines. The Centre works in close collaboration with the National Immunisation Technical Advisory Groups (NITAGs) and the Health Security Committee to support policy-makers and public health experts at national level in the development of vaccine deployment plans, rollout of vaccination campaigns, and implementation of vaccination strategies for COVID-19 vaccines. Twenty-five webinars with the NITAGs were organised by ECDC in 2021 on those topics, with the participation of EU and international stakeholders, such as US CDC, non-EU countries, and WHO.

In the area of AMR monitoring, ECDC established, jointly with The WHO Regional Office for Europe, a list of selected monitoring indicators based on the FAO/OIE/WHO Tripartite Monitoring and Evaluation framework, and these indicators were reported in the first ECDC-WHO Europe joint report on AMR surveillance in Europe (2020 data) that was published on 26 January 2022. Such analytic information on the level of response to AMR is intended to assist Member States to understand better where they should prioritise efforts to prevent and control AMR. Integration of indicators on structures, resources, and processes for the implementation of infection prevention and control (IPC) and antimicrobial stewardship (AMS) programmes in acute care hospitals in the EU/EEA countries is ongoing and these will be included in the third point prevalence survey of HAIs and antimicrobial use in European acute care hospitals, to be launched in 2022.

Monitoring of indicators to measure how far Member States have achieved the UN Sustainable Development Goals in the areas of HIV/AIDS, hepatitis, and TB together with comprehensive progress reports, provide important feedback and data to countries helping them to benchmark and plan better their use of resources.

In 2021, in close collaboration with Member States, ECDC performed monitoring for hepatitis and HIV and published monitoring reports.

Address the behavioural aspects that are needed for national programmes to be successful

ECDC continued to address the behavioural aspects and effective risk communication of importance to the prevention and control of specific diseases. In 2021, these efforts focused mainly on COVID-19 and vaccine hesitancy.

In this area, a number of important reports were published by ECDC:

- Technical report on countering online vaccine misinformation in the EU/EEA, which provides insights for national public health authorities into the factors behind the spread of vaccine misinformation online and the options and capacities needed for responding to it[1];
- Technical report on facilitating COVID-19 vaccination acceptance and uptake in the EU/EEA, which presents considerations for diagnosing barriers to acceptance and uptake of COVID-19 vaccination and designing and implementing interventions to increase uptake. The report uses the so called '5Cs' model to organise and explain the various causes of low vaccination acceptance and uptake, and to categorise potential interventions[2];
- Technical report on behavioural insights research to support the response to COVID-19 in the EU/EEA. This report identified success stories in behavioural insights work in Member States from the first year of the pandemic and highlighted areas that need further attention and support[3].

Intensive work was initiated to assist Member States with suboptimal COVID-19 vaccination uptake to increase vaccine coverage. It involved webinars for 11 countries and bilateral exchanges (see more information in Action Area 2.1).

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[1] Report available from https://www.ecdc.europa.eu/en/publications-data/countering-online-vaccine-misinformation-eu-eea
[2] Report available from: https://www.ecdc.europa.eu/en/publications-data/facilitating-covid-19-vaccination-acceptance-and-uptake

[3] Report available from: https://www.ecdc.europa.eu/en/publications-data/behavioural-insights-research-support-response-covid-19

Emphasise a general 'One Health' approach to relevant ECDC work

ECDC aims to further identify and develop its role in prevention and control of infectious diseases in a zoonotic and One Health perspective. In 2022, work will start to develop an ECDC One Health framework with strategic objectives. In 2021, in cooperation with EFSA, ECDC provided relevant and high-quality monitoring data and scientific advice for food and waterborne disease outbreak prevention and control to support the European Commission and EU Member States.

Trends in AMR in infections from zoonotic bacteria were monitored and compared with those from livestock and food using a One Health approach. Results of these analyses were published on 30 June 2021 in the third report on the Joint Interagency Antimicrobial Consumption and Resistance Analysis (JIACRA III, jointly with EFSA and EMA). Work continues to identify emerging strains with AMR of particular concern, such as MDR, ESBLs and/or carbapenemases under the European Antimicrobial Resistance Genes Surveillance Network (EURGen-Net), a network for genomic-based surveillance of multidrug-resistant bacteria of public health importance. In 2021, ECDC worked on the completion of the carbapenem- and/or colistin-resistant Enterobacterales (CCRE) survey under EURGen-Net, and its results will be published in 2022.

Collecting information on the diversity, ecology and epidemiology of vector-borne human pathogens and their vectors continued in 2021. The public health impact of the non-vectorial transmission routes of Tick-borne encephalitis (TBE) virus was investigated over a systematic survey. The public health impact of leishmaniasis was assessed in the EU/EEA and its neighbourhood counties. The geographic distribution, public and animal health impact, surveillance, response and control methods of West Nile virus and Usutu virus infections were studied involving public health, animal health, entomology and Substances of human origin sectors in a one-health project. The frequency of airport- and luggage-related, imported malaria cases in Europe was analysed. The changes in the distribution of relevant pathogen vectors were monitored through biannual updates of vector distribution maps in Europe.

In the area of microbiology, ECDC significantly strengthened public health microbiology structures and activities in Member States through the implementation of WGS and RT-PCR infrastructure and capacity-building under the EU bio-defence preparedness plan against SARS-CoV-2 variants launched in February 2021. As part of the support to the European Health Emergency Preparedness and Response Authority incubator, ECDC awarded more than EUR 77 million to 24 EU/ EEA countries to strengthen whole genome sequencing and RT-PCR infrastructures within the countries' national public health programmes. The immediate objective was to reinforce countries' capacities for early detection and enhanced monitoring of emergent and known SARS-CoV-2 variants.

The funds awarded were based on the individual needs of each country, as described in applications submitted by their public health authorities. Activities are 90% funded by ECDC, while the countries are required to finance the remaining 10% themselves. Projects started in September and October 2021 and will run until the end of September 2022.

2.3 Training: provide adequate training opportunities considering the changing environment for infectious disease prevention and control

ECDC supports the strengthening of workforce capacity with the goal of reaching a sufficient number of trained public health specialists in Member States and at the EU level, and ensuring their adequate performance for communicable disease preparedness and response, prevention, detection, assessment and control nationally and across borders.

Within the ECDC Virtual Academy, trainers and learners have access to training materials, online courses, webinars and communities of practice, through the Continuous Professional Development training offer. In 2021, two new e-learning courses were accredited via the Agency for Public Health Education Accreditation (APHEA) and two more are pending final decision from the APHEA accreditation board. Knowledge transfer is promoted, with support provided to participants in trainings to facilitate it.

Networking with European and global training partners is a key pillar of the ECDC training strategy, and involves partners like the European Commission, WHO, ASPHER, European Public Health Association, Africa CDC, US CDC, the Public Health Agency of Canada, and TEPHINET, among others.

In June 2021, the Mediterranean and Black Sea Programme in Intervention Epidemiology Training (MediPIET) became an inherent component of the EU Initiative on Health Security, and the launch of cohort 4 of the MediPIET will be reported in full under action area 4.1.

In 2021, 33 fellows graduated from the ECDC Fellowship Programme and the EPIET-associated programmes (30 cohort 2019, two EAPs C2018 and one EAP C2017). At the end of the year, 71 fellows were enrolled (33 from cohort 2020 and 38 from cohort 2021). The programme, which is an in-service training at public health institutes and laboratories located in EU/EEA countries, features an introductory course, training modules, and international assignments.

Figure 6. ECDC Fellowship Programme: number of enrolled participants per cohort, 1995–2021
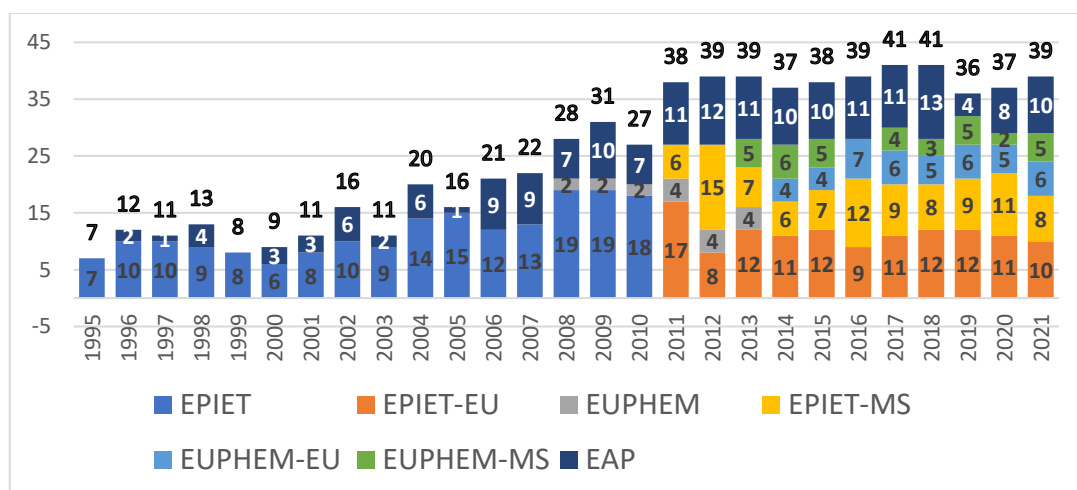
As the COVID-19 pandemic dominated the activities of public health institutes in Europe, EPIET and EUPHEM fellows were heavily engaged in a wide range of COVID-19 activities related to the early detection, diagnostics, risk assessment, risk communication, preparedness, response and operational research in epidemiology and public health microbiology. To discuss and share experiences on COVID-19 response among fellows, training sites and ECDC, several think tanks were conducted on various COVID-19 topics. For instance, in December 2021 the think tank focused on different aspects of the Omicron surge.

Its in-service nature and direct contribution to strengthening response capacity to tackle cross-border threats, justified all efforts invested to keep the start date of Fellowship for Cohort 2021 and to maintain business continuity, despite the challenges (upon cancellation of face-to-face activities). The selection of Fellowship Cohort 2021 was possible through conducting both the interviews with candidates and the 'market' with training sites online. During 2021, all modules were conducted online, including the Introductory Course of Cohort 2021. The fellows of EPIET and EUPHEM conducted 15 international assignments, mainly concerning COVID-19 and including COVID-19 contact tracing, surveillance system strengthening and vaccine effectiveness studies.

Table 1. Modules and participants, ECDC Fellowship programme

Programme	Topic / track	Participants	Total
Fellowship Programme	EPIET cohort – EU-track 2020 EUPHEM cohort – EU-track 2020 EPIET cohort – Member State - track 2020 EUPHEM cohort – Member State - track 2020 EPIET-associated programmes 2020	10 (11 and 1 resigned) 5 10 (11 and 1 resigned) 2 7 (8 and 1 resigned)	
	EPIET cohort – EU-track 2021 EUPHEM cohort – EU-track 2021 EPIET cohort – Member State - track 2021 EUPHEM cohort – Member State - track 2021 EPIET-associated programmes 2021	10 6 8 4 (5 and 1 resigned) 10	
MediPIET (scientific leadership)	In 2021 – 15 fellows from Cohort 3 were under training (see details under section 4.1)	15	15

Online consultations with NFPT/TSF about the future Fellowship Programme after the 2019 external evaluation guided the definition of the concept and roadmap for improvements that were finalised, consulted with the Advisory Forum and approved by the Management Board in June 2021. The working groups that will guide and drive the improvement work as outlined in the roadmap have been formed and started their work during 2021. The improvements work involves curricular revision, ways to address Member States underrepresentation, international assignments, quality improvement, the selection process and simplification of administrative processes.

Figure 7. Total EU-track fellows (sent and hosted) per country since the start of the Fellowship Programme

Sent/Hosted EU-track fellows per country 1995 - 2021
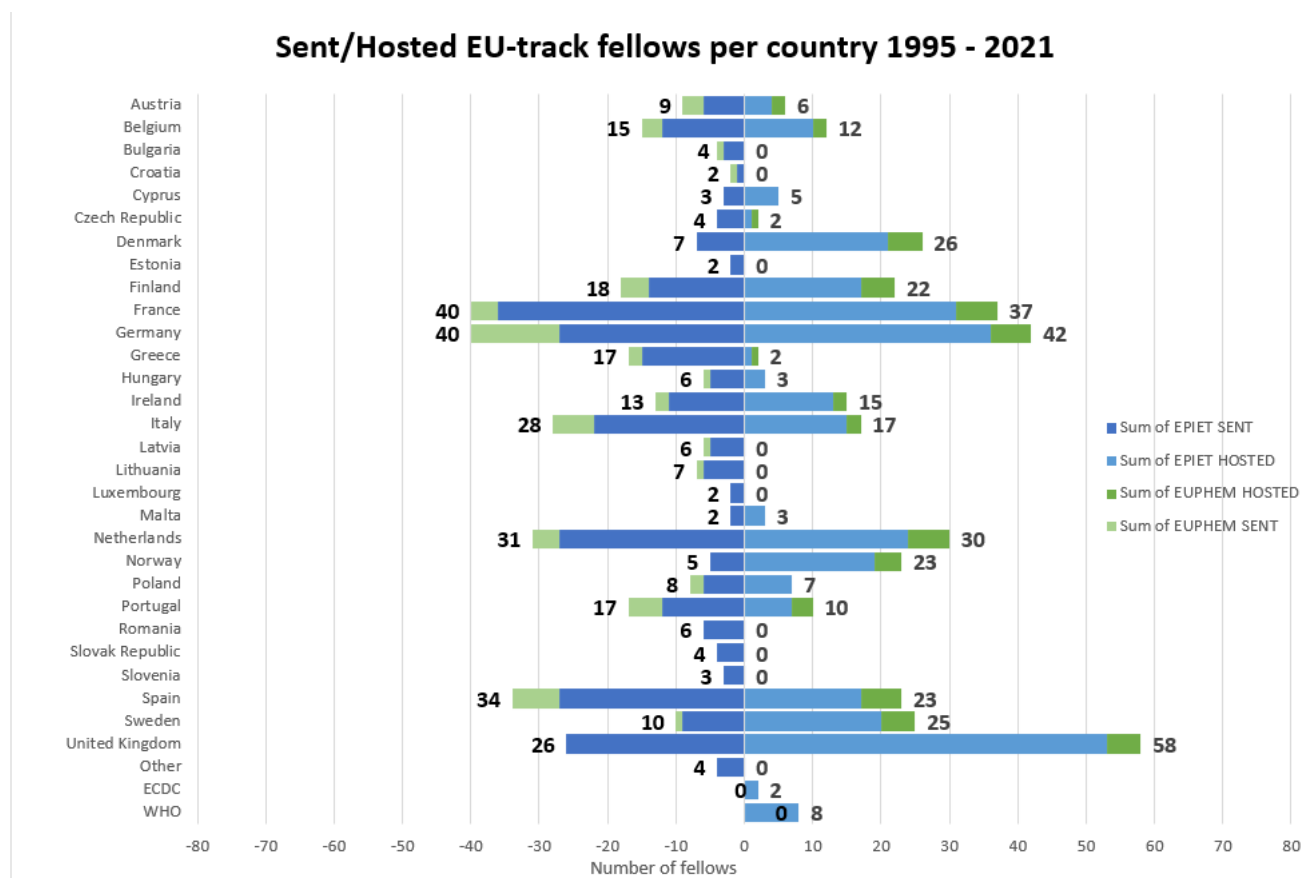
In 2021, the Continuous Professional Development programme continued offering a vast array of instructor-led and e-learning courses.

Table 2. ECDC Instructor-led training activities

	Name of training activity	Duration (hours)	Delivery date	No. of participants	Feedback/ satisfaction	Comments	APHEA* Accreditation (Y/N)
1	Advanced antimicrobial susceptibility testing for Mycobacterium tuberculosis and non-tuberculous mycobacteria– theoretical (1st part) and practical (2nd part) workshop	6 hours + 5 hours	15-17 February And 15-16 March	19 on the 1st part and 8 of those in the 2nd	100% positive evaluation (scores 8-10 out of 10)		N
2	Training on epidemic intelligence and rapid risk assessment	18 hours	19-23 April	12	100% satisfied (4 answers)	Health Security Initiative	N
		18 hours	4-10 May	7	100% satisfied (6 answers)	Health Security Initiative	N
3	ECDC rapid risk assessment training	5 hours	22 October	25	92% satisfaction	ACPHEED[1]	N
4	Epitweetr: R-based automated open-source tool for early detection of public health threats from Twitter	5 hours	16 June	14	100% satisfied (5 answers)		N
5**	Summer School – Supervisors' Best Practice	8 hours	1-2 September	26	83% satisfied with the course		Y
6	Workshop on entry/exit screening - Science and	5.5 hours	14 September	40	100% satisfied (7 answers)		N

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[1] ASEAN (Association of Southeast Asian Nations) Centre for Public Health Emergencies and Emerging Diseases

	Name of training activity	Duration (hours)	Delivery date	No. of participants	Feedback/ satisfaction	Comments	APHEA* Accreditat ion (Y/N)
	practice (together with FRONTEX)						
7	Virtual workshop on 'Active Tuberculosis case finding in vulnerable populations'	9 hours	27-28 September	11	Participants found the workshop interesting and useful	Delivered instead of webinar 'Screening for active tuberculosis and tuberculosis infection among migrants'	N
8**	Control of multidrug-resistant microorganisms (MDRO) in health care settings	19.5 hours	22, 24, 26 November	57	97% recommend the course to others		Y
9**	Workshop on After-Action Reviews (AAR) and In-Action Reviews (IAR) 2021	12 hours	22, 23, 26 November	20	100% recommend the course to others		N
10**	Winter Workshop 2021: After-action reviews	12.5 hours	1, 3, 7 December	45	90% satisfied with the course		Y

Agency for Public Health Education Accreditation (APHEA)
*** Organised by the Continuous Professional Development (CPD) group*

The charts below show the representation in instructor-led courses during 2021 (distribution of the number of participants across EU, EEA/UK and third countries).

Figure 8. Number of participants to instructor-led courses per EU country (Total of 135 participants)
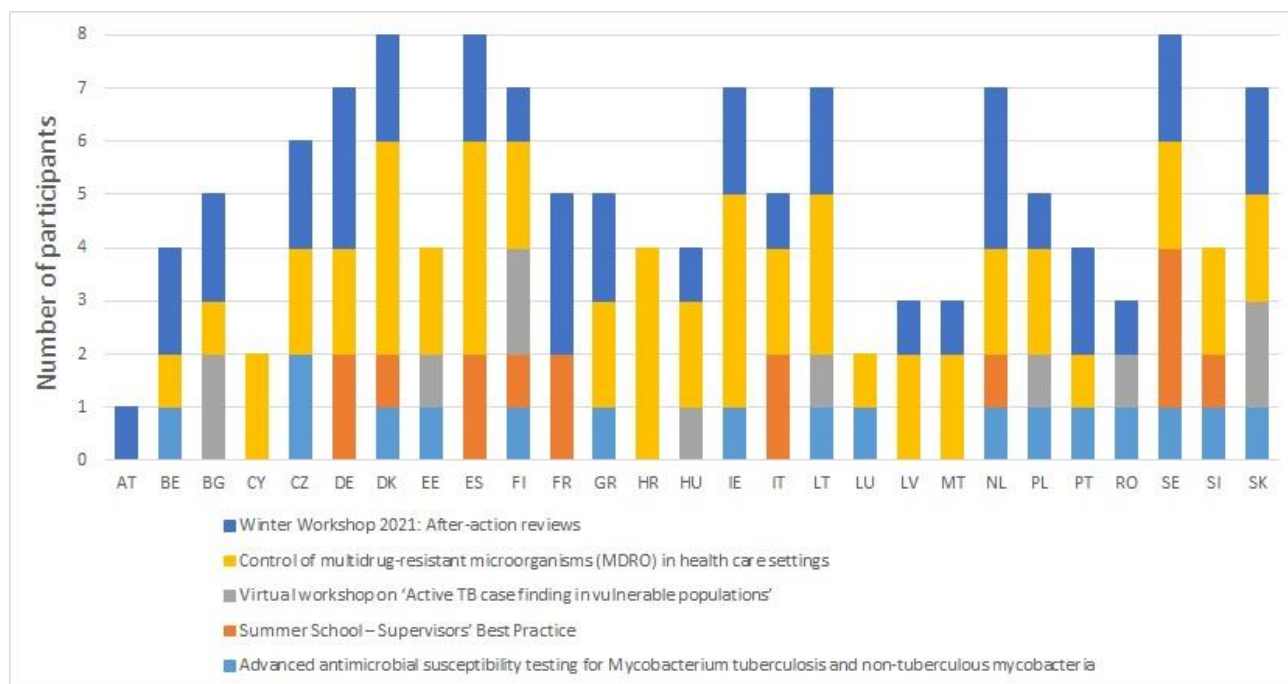
Figure 9. Number of participants to instructor-led courses per EEA/UK country (Total of eight participants)
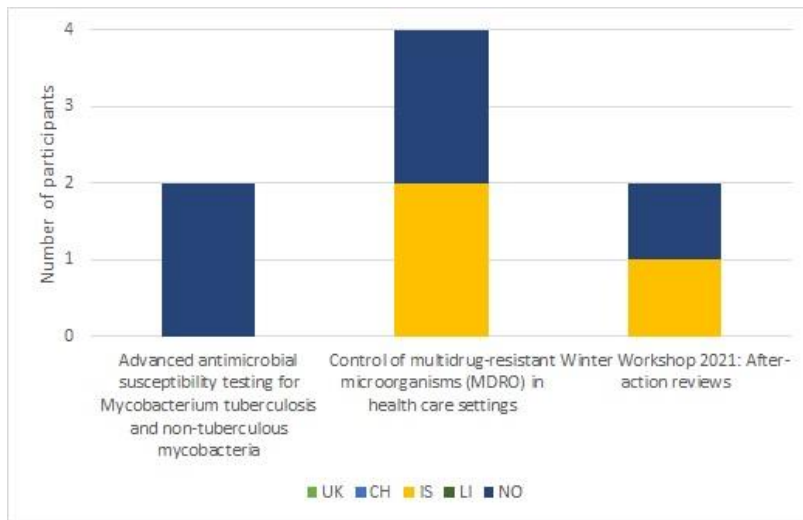
Figure 10. Number of participants to instructor-led courses per other countries and geographical areas outside EU/EEA/UK (Total of 133 participants)
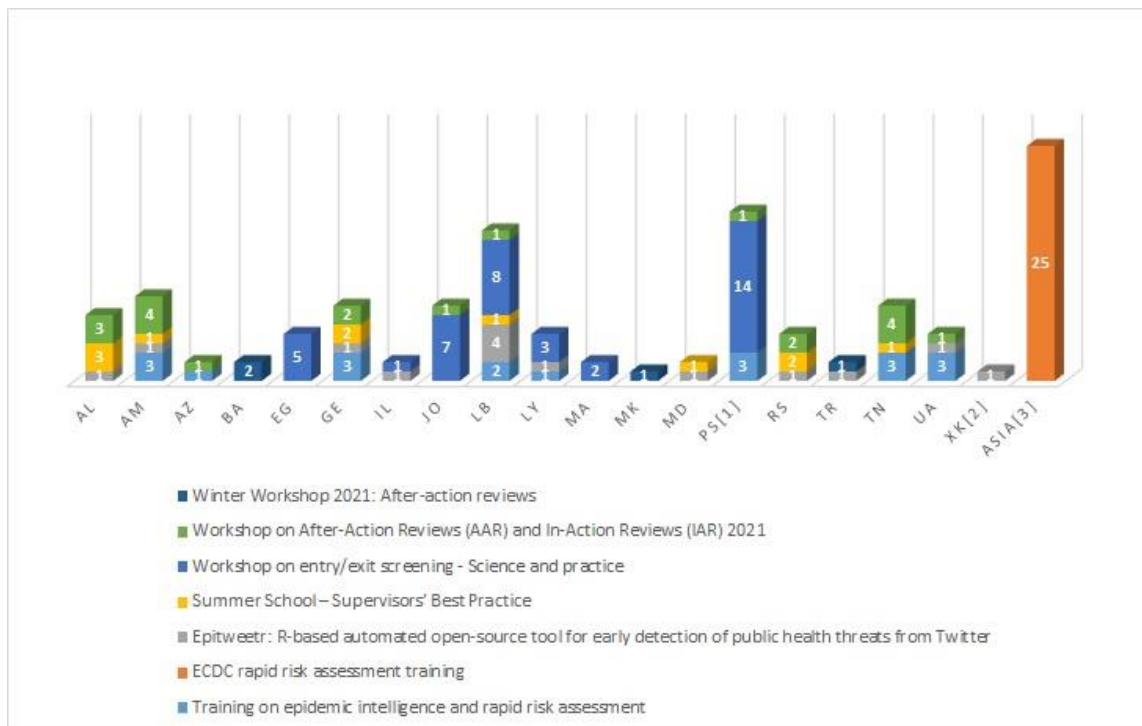
From the figures above we can conclude that:

- 135 participants from EU countries attended instructor-led courses organised by ECDC, where most were from Denmark, Spain and Sweden (eight each).
- Eight participants from EEA/UK countries attended instructor-led courses organised by ECDC, where only Norway and Iceland sent participants (five and three respectively).
- 133 participants from countries and geographical areas outside EU/EEA/UK attended instructor-led courses organised by ECDC, where most were from Palestine and Lebanon (18 and 16 participants respectively).

The data in the table below shows the number of enrolled learners, approximate duration and satisfaction for each e-learning course available in EVA at the end of 2021.

Table 3. E-learning courses in 2021

No	Course Name	Publication date	Duration (hours)	Enrolled in 2021	Obtained Certificate for 2021	Satisfaction (1–10)	APHEA* accreditation Y/N
1	Essentials of Writing and Reviewing Scientific Abstracts: a field epidemiology focus	Mar-16	2 weeks	124	37	8.7	N
2	Introduction to Outbreak Investigation e-learning	Oct-18	2	219	66	8.7	N
3	Influenza vaccination campaigns targeting health care workers*	Oct-18	0,5	9	2	8.7	N
4	Rapid Risk Assessment e-learning course	Mar-19	2-3	218	54	8.6	N
5	Assessing and grading evidence in public health e-learning course (PRECEPT)	Apr-19	6-8	62	17	8.7	N
6	Influenza bioanalytics e-learning course	Sep-19	3-5	48	7	8.6	N
7	Cross-border sharing of public health data e-learning course*	Dec-19	2-3	47	8	8.6	N
8	e-learning on Migration and Health for Health Professionals*	Mar-20	8	98	14	9.7	N
9	e learning on Migration and Health for Law Enforcement Officers*	Mar-20	8	23	7	9.5	N
10	e-learning on Migration and Health for Social Workers*	Mar-20	8	23	5	9	N
11	e learning on Migration and Health for Trainers and Coaches*	Mar-20	3	22	2	9.5	N
12	e-learning for front-line managers on COVID-19 response to vulnerable populations*	Nov-20	1.5	191	42	9	N
13	Contact tracing in the context of COVID-19 response*	Aug-20	1.5	224	97	95% would recommend	N
14	Introduction to Infectious Disease Surveillance - e-learning pilot	Jan - 21	1,5-2	37	17	n/a	N
15	Antimicrobial Stewardship e-learning course	Feb-21	0.5	305	95	8.4	N
16	Peer feedback on Writing and Reviewing Scientific Abstracts: a field epidemiology focus April-May 2021	Apr-21	0.75	35	7		N
17	e-Learning course on introduction to designing in- and after-action reviews	May-21	2-4	188	61[1]	8.3	Y
18	How to design a Table-top exercise e-learning pilot course	June-21	0.5	26	19	n/a	n/a
19	How to design a Functional exercise e-learning course	June-21	0.75	25	0	n/a	n/a
20	Epidemic Intelligence e-learning course	Sep-21	2-4	539	135	9.0	Y
21	Understanding Vaccine Acceptance & Strategies to Increase Vaccine Uptake	Dec-21	0.5	229	64	8.5	N
	Total:			**2692**	**758**		

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[1] Of those 61 issued certificates, 26 were issued using Custom certificate activity.

Figure 11. Percentage of completion and in progress per e-learning course
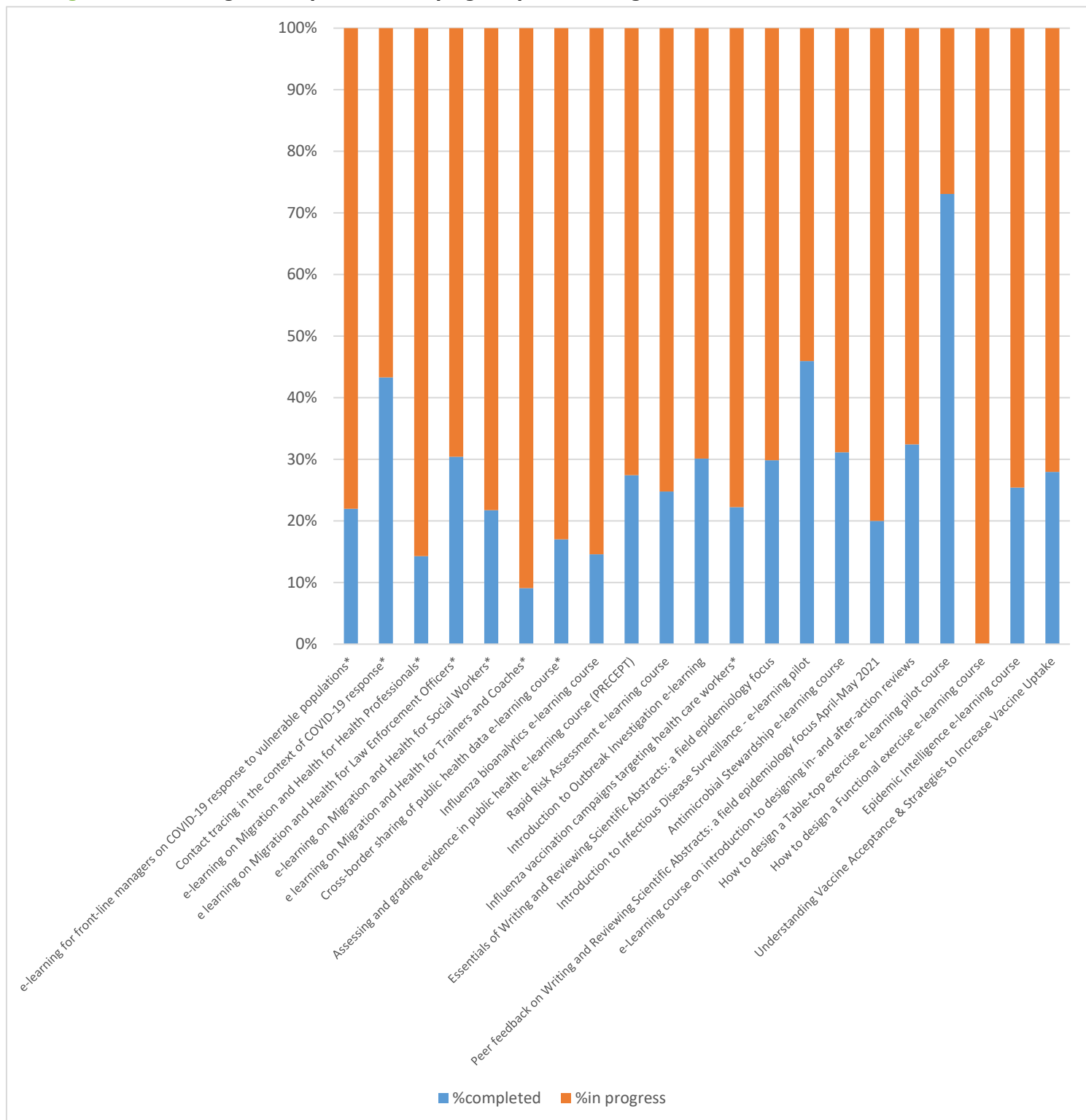
The results of the completion rates are in line with the overall rates for e-learning found in the literature, where approximately one in every five participants completes a course1. An older study specific for massive open online courses (MOOCs) found results varying from 0.7% to 52.1%, with a median value of 12.6%[2].

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[1] R. F. Kizilceca, J. Reichb, M. Yeomansc, C. Dannd, E. Brunskille, G. Lopez *et al*, Scaling up behavioral science interventions in online education, PNAS, June 30, 2020; vol. 117, no. 26.

[2] K. Jordan, Massive Open Online Course Completion Rates Revisited: Assessment, Length and Attrition, International Review of Research in Open and Distributed Learning, vol. 16, no. 3.

During 2012, 21 e-learning courses were made available in EVA for learners to self-enrol, eight of which were new e-learning courses, launched in 2021.

The Senior Exchange visits were suspended during 2021, as travelling was not possible due to COVID-19.

Many experts and teams at ECDC are behind the production and delivery of the Continuous Professional Development activities. Cooperation and multiple iterations between the Public Health Training section and subject matter experts made possible the design, development and implementation of the courses included in the ECDC Course listing for 2021.

Needs assessment

Triennial surveys to assess capacity and training needs in EU/EEA countries help tailor the ECDC training offer, in particular the continuous professional development. In 2021, a new survey was launched. It is still open to respondents upon request of the National Focal Points for Training to extend the deadline for response, due to COVID-19.

Competency frameworks

The project to update the core competencies on applied infectious disease epidemiology, including qualitative and quantitative methods, was completed and clearance of the resulting technical report is ongoing. The competency framework offers a means of developing a shared vision of what constitutes the specific knowledge and skills required for effective practice.

Networking

The Centre contributes with expert input to the Training Programmes in Epidemiology and Public Health Interventions Network (TEPHINET's) learning advisory council for the field epidemiology training programme, and the Strategic Leadership Group to drive the progress of Field Epidemiology Training Programmes (FETPs) worldwide as part of a Global Field Epidemiology Roadmap.

ECDC continued its collaboration with the Global Laboratory Leadership Programme, together with WHO, the FAO, the OIE, the US CDC and the American Association of Public Health Laboratories (APHL).

2.4 Emergency preparedness: support countries in emergency preparedness and response, including by deployment of public health teams as requested

One of the ECDC's core tasks is to provide technical support to the EU-level response to communicable disease threats. Decision No 1082/2013/EU on serious cross-border threats to health and the International Health Regulations continued to be the policy frameworks under which ECDC operates for emergency preparedness and response. In this area, ECDC strengthened the coordination between the European Commission and Member States. ECDC's actions addressed all the countries or groups of countries based on their needs, and in synergy with WHO. There was active collaboration with relevant ongoing EU Joint Actions (SHARP, Healthy Gateways, Joint Action TERROR: Strengthened Preparedness and Response to Biological and Chemical Terror Attacks) to support activities related to preparedness and response and implementation of the International Health Regulations.

The EU Early Warning and Response System (EWRS) on public health threats is operated by ECDC on behalf of the European Commission and serves as a key tool to support the EU-level response to cross-border health threats. During 2021, ECDC ensured proper functioning of EWRS and implemented further improvements of the platform according to the needs of the European Commission and Member States. ECDC supported the European Commission with a survey about lessons learned from the use of EWRS during the COVID-19 pandemic, to guide further EWRS development. In addition, the EpiPulse platform was launched in 2021 to facilitate collection of data and exchange of experts' experiences in communicable disease outbreaks.

In 2021, the public health emergency preparedness and response work was in large part directed to supporting the European Commission and EU/EEA Member States to undertake actions to mitigate the impact of the COVID-19 pandemic to the health of the European population.

ECDC maintained the Emergency Operation Centre in the highest alert level. The ECDC public health emergency plan which enables the Director to mobilise resources to support the EU-level response to serious cross-border threats to European public health, continued to be in force with the Public Health Emergency (PHE) structure in place for the duration of the whole year.

Experts in the public health emergency preparedness and response team were heavily involved in PHE activities, including in functions such as PHE manager, PHE strategic analysts, PHE technical expert, PHE response duty, PHE internal evaluators, technical support for PHE managers, team members of COVID-19 task forces, etc.

For the duration of 2021, the ECDC PHE plan in response to the continuing COVID-19 pandemic was maintained at level 2, the maximum level of alert. The PHE structure was reorganised in two phases after consultations with the involved staff at different levels and after approval by the PHE Management Team in May 2021. The overall aim was for the PHE structure and governance to evolve to fit the more complex, diverse and broadened work on COVID-19 and to facilitate streamlined coordination and decision making. The PHE COVID-19 Task Force (CTF) created in 2020 continued to be the focal team handling COVID-19-related Commission, Member States and other requests, development of new and updates of older guidance documents. The current structure of the PHE as of September 2021 is shown on Figure 12.

Figure 12. Overview of the ECDC PHE structure for COVID-19, 2021
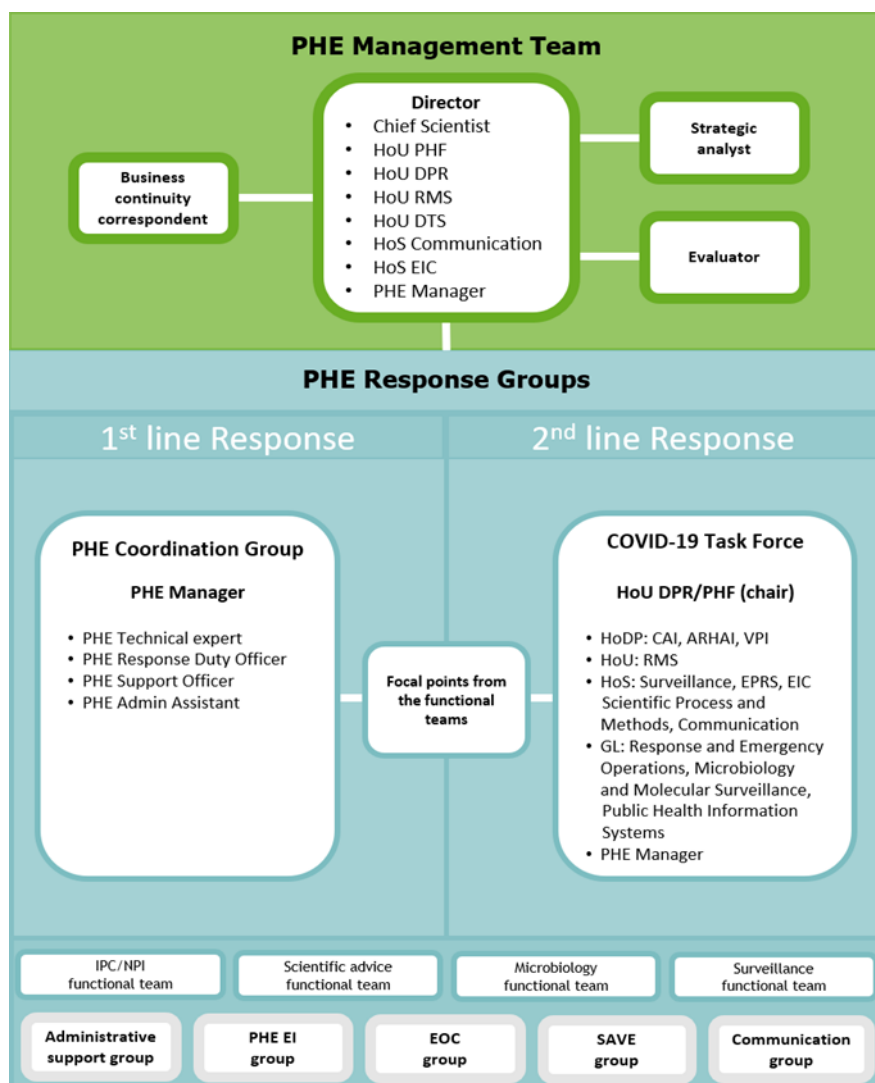
A total of 112 ECDC staff members worked in the framework of the COVID-19 PHE. Ten experts and scientific staff are on duty every week for the first-line response. In 2021, more than 731 individual tasks were addressed by PHE staff, with an additional twelve tasks which recur on a weekly, fortnightly or monthly basis. The Centre is maintaining ten types of raw data databases updated daily, weekly or fortnightly, publishes a weekly country overview report with multiple surveillance indicators, has developed 20 infographics and 16 short videos and maintains 46 webpages on COVID-19. In addition, four dashboards are maintained (Situation dashboard, Vaccine Tracker, Variant Dashboard, ECDC-JRC Response Measures Database).

Based on the ECDC experience from operating the Emergency Operation Centre, managing the PHE COVID-19 and taking into account lessons-learnt during the COVID-19 response, ECDC will assist Member States that request the development of Public Health Emergency Operation Centre operating procedures, with reference to international standards.

During 2021, ECDC published a number of rapid risk/outbreak assessments aimed at supporting Member States and the European Commission in their preparedness and response to public health threats. RRA/ Rapid Outbreak Assessment provide a timely summary and risk assessment of public health threats for EU/EEA countries related to a specific event. They also include options for response.

Out of the 22 rapid risk/outbreak assessments that the Centre conducted and published during 2021, 11 (50%) aimed to assess different phases and developments in the COVID-19 pandemic. Furthermore, under the One Health approach in response to cross-border foodborne threats through joint ECDC-EFSA rapid outbreak assessments, EU level analyses of data were performed in cooperation with EFSA, European Union Reference Laboratories, Member States and other relevant parties. The RRA methodology is constantly monitored and upgraded. ECDC also prepared for an update of the RRA methodology collecting lessons learned from the many RRA related to COVID-19 and the recommendation sent by the EU Ombudsman.

Work was also initiated for the development of a protocol and a full toolbox of in- (IAR) and after-action reviews (AAR). The protocol for focused evidence-based decision-making was published, and work with EU, EEA and ENP countries was initiated to review response actions in long-term care facilities. Work on an assessment framework with a focus on preparedness indicators was also performed to facilitate further discussions on preparedness and response planning assessment and identification of gaps and needs in context of pandemic situations. In 2021, 12 literature reviews were initiated on COVID-19-related topics such as non-pharmaceutical interventions (NPI) effectiveness, seasonality of SARS-CoV-2, risk factors for COVID-19, settings of SARS-CoV-2 transmission, cost-effectiveness of NPIs, inequalities of COVID-19, among other. The literature reviews have supported the development of ECDC and Member State guidance; for example, the concluded review on NPI effectiveness was shared with all Member States to support decision-making in the late Delta and early Omicron waves.

The Centre continued hosting trainings for stakeholders including the ECDC Fellowship programme, the Health Security Initiative, Africa CDC and other non-European partners. Training materials for e-learning courses were developed to support public health professionals in the EU/EEA and ENP countries to perform in-action and after-action reviews in Member States. Extensive information on the trainings offered is provided under Section 2.3.

The ECDC network of National Focal Points (NFP) for Preparedness and Response and the NFP for Threat Detection, Early Warning and Response Systems and International Health Regulations was actively involved in regular webinars, where topical issues regarding the COVID-19 pandemic were discussed with external and internal experts.

Ten webinars were organised for the network of NFPs, with the number of participants ranging between 65-85 per webinar, and topics covering a variety of aspects of preparedness and response to the COVID-19 pandemic. Internal and external speakers presented to an audience of NFPs, observers from EU Enlargement Countries, CDCs, WHO and the European Commission.

In order to support all the above activities ECDC maintained a robust response duty roster and supported disease programme duty rosters and functional teams, providing particular support to the Infection Prevention Control/Non-Pharmaceutical Interventions (IPC/NPI) team. The Centre also provided expert support in response to requests from Member States, the European Commission (Directorate General for European Civil Protection and Humanitarian Aid Operations, Directorate-General for Health and Food Safety) and WHO in relation to serious cross-border health threats. An ECDC expert participated in the Joint External Evaluation of Ukraine by the WHO Regional Office for Europe in late November 2021.

ECDC, in collaboration with the European Commission's Joint Research Centre (JRC), maintained and curated the ECDC-JRC Response Measures Database (RMD), a repository of non-pharmaceutical interventions (NPIs) implemented since 1 January 2020 in EU/EEA Member States in response to the COVID-19 pandemic. ECDC coordinated NPI data collection and data validation with fortnight frequency, with the dissemination of the database supported both by JRC and ECDC in their respective webpages and in different formats to facilitate different uses. The database webpages received a stable and substantial number of visits during the year. ECDC and JRC used the ECDC-JRC RMD to feed regular and ad hoc outputs with information on the different NPIs implemented by EU/EEA countries during the COVID-19 pandemic.

Figure 13. ECDC-JRC Response Measures Database
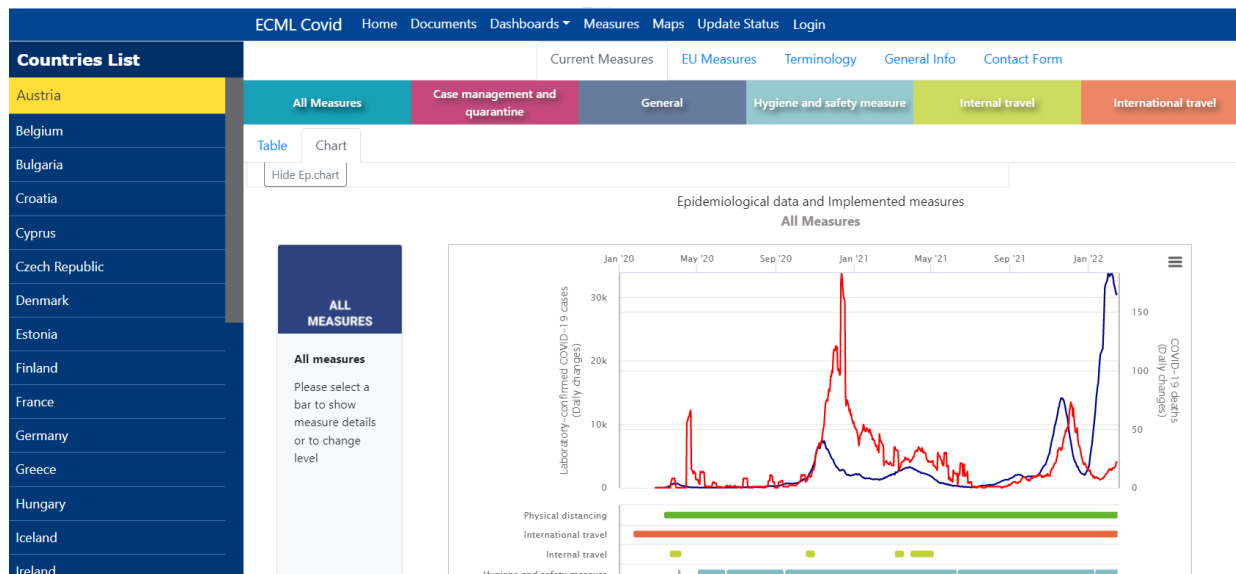
ECDC coordinated or supported the harmonisation of investigations of multi-country public health events and threats, as well as national investigations. ECDC also made protocols available to Member States to guide contact tracing activities and to investigate COVID-19 clusters, including studies to assess vaccine effectiveness in closed or semi-closed settings. In preparation for the work of the EU Health Task Force, the Centre provided technical support for preparedness and response remotely, including performing an evaluation of the SARS-CoV-2 testing policy upon request of an EU Member State. In collaboration with the Directorate-General for Health and Food Safety, ECDC developed plans for joint ECDC- Directorate General for European Civil Protection and Humanitarian Aid Operations field deployments for preparedness and response assignments, both inside and out of the EU.

In collaboration with affected Member State(s), ECDC offered to support after-action reviews to analyse and learn from the actions performed during an outbreak of cross-border relevance. The COVID-19 pandemic will most likely trigger a review of preparedness and response plans in countries, including capacities in critical areas such as surveillance or microbiology. It may also trigger reflection on the implementation, monitoring and evaluation of unprecedented non-pharmaceutical measures (such as social distancing, school closures with distance learning and work-from-home, etc.), with an effort to balance the mitigation of the pandemic with the ensuing social and economic disruption. There is a need to better understand the effectiveness of these measures and/or what could have been done better. ECDC will support this review process and engage with countries to identify lessons learnt from the COVID-19 pandemic. ECDC initiated an after-action review project on evidence-based decision-making in long-term care facilities in three countries (one EU, one EEA and one ENP country - Belgium, Norway, and Georgia) in late 2021.

Strategic objective 2. Performance indicators

Action Area	Objective	Performance indicator	Target	Verification	Result 2021
2.1	**Networks interactions**	- Average rate of participation in ECDC meeting and activities	75%	SRM	● Not measured in 2021.
		- Rate of expectations met and objectives fulfilled with meetings	75%	Standard questionnaire to participants during meeting	● Not measured in 2021.
2.1	**Country support**	-Proportion of requested country missions that were conducted by ECDC	100%	European and International Cooperation section	● Not applicable, due to travel restrictions.
2.2	**Develop scientific advice on communicable disease prevention and control measures**	Uptake of ECDC scientific outputs by Member States	TBC	ECDC stakeholder survey or consultation during NFP meetings	● Not measured. ECDC Stakeholder survey will be carried out in 2022.
2.2	**Strengthen whole genome sequencing and RT-PCR capacity in the EU/EEA**	Degree of implementation of enhanced genomic-based surveillance support activities to Member States	Infrastructure support projects initiated for at least ten countries	Grant agreements signed	● Achieved (24 grant agreements signed).

Action Area	Objective	Performance indicator	Target	Verification	Result 2021
2.3	**Improvements of the Fellowship Programme, based on the results of the 2019 external evaluation**	Number of scientific articles of public health relevance by ECDC fellowship programme (EPIET/EUPHEM) during and two years after graduation	> 50% increase compared to the two-year period before entering the programme	Bibliometric analysis in PubMED, Scopus (ECDC library)	● 158% increase.
2.3	**Offer a Continuous Professional Development (CPD) that responds to the needs identified by ECDC's networks, and provide tools and support for the transfer of knowledge at European, national and sub-national levels, with special attention to COVID-19-related needs**	Proportion of trainings that include a session to support participants' knowledge transfer Proportion of participants that consider the training useful Proportion of Member States that consider the different trainings useful	00% 80% 80%	ECDC Public Health training statistics Course evaluations Assessment performed during the annual NFP meeting based on list of trainings conducted in year N-1	● Not measured. ● 96% average participants satisfaction with instructor-led courses. ● 89% average participants satisfaction with e-learning courses.
2.3	**Keep continuous quality improvement activities, accreditation and evaluation as an essential part of ECDC training programmes and activities.**	Proportion of short courses accredited under UEMS/APHEA	50%	Number of accepted accreditations (ECDC Public Health Training statistics) for all trainings conducted across ECDC	●50% four applications for e-learnings (2 accredited and 2 in pipeline). For Fellowship this was not prioritized due to changed planning/delivery of modules (virtual delivery) during COVID.
2.3	**Maintain the ECDC Virtual Academy (EVA) as a learning system that includes training materials, and the administration of all ECDC training offer (face-to-face, online and blended) for the different training programmes and activities**	Number of enrolments in EVA Satisfaction by participants on the usability of the EVA platform	+10% 80%	EVA platform statistics EVA platform survey among participants that completed the course	● Enrolment in EVA courses increased with almost 98% in 2021 compared to 2020 (2692 participants 2021 vs. 1360 participants 2020). ● 89% average participants satisfaction with e-learning courses.
2.3	**Identify country capacity gaps and training needs through the triennial assessment surveys (CCBs and NFPT), to tailor trainings and reduce inequalities in capacity across Europe**	Response rate of the survey	70%	Results of the survey	● Survey was launched in Q4 2021, but still open after request of NFPT to extend timeline, due to COVID-19.
2.4	**Provide technical support in the three phases of the preparedness and response cycle: anticipation, response, recovery**	Rate of participations to ECDC meetings and activities Rate of satisfaction with meetings and activities (on the added value of the meeting and on the knowledge and skills improved) Implementation according to project plan (schedule, resources and scope)	75% 75% Less than 20% deviation from the duration, resources and scope of the initial baseline	Stakeholder Relations Management System (SRM) Quarterly ECDC Portfolio Steering Committee reporting	● Not measured. ● Not measured. ●● Support was provided as much as possible under remote conditions; NFP webinars were organized on a monthly basis, each was attended by 65-85 participants.
2.4	**Provide support for strengthening competencies in the area of preparedness and response**	Use of ECDC tools by Member States Proportion of participants that consider the training useful Proportion of Member States that consider the training useful	On average >50% of Member States use ECDC tools 80% 80%	Assessment performed during the annual NFP meeting based on list of tools available Course evaluations in EVA Assessment performed during the annual NFP meeting based on list of trainings conducted in year N-1	● Not measured. ● 97% average participants satisfaction with instructor-led courses and 83% with e-learnings. ● Not measured.

Action Area	Objective	Performance indicator	Target	Verification	Result 2021
2.4	**Produce and disseminate Rapid Risk Assessments, and response-related duties**	Average number of downloads per RRA/ Rapid Outbreak Assessment Number of RRAs for which after-action reviews (AAR) have been conducted	TBC TBC	ECDC annual report / web statistics Survey among NFPs	● 934 .pdf downloads on average. ● No survey was conducted in 2021 due to the COVID-19 response.
2.4	**Managing requests for technical and scientific assistance to support EU response actions in the field**	Proportion of field requests to respond to cross-border Public Health emergencies for which support is provided to Member States and the European Commission	100%	Emergency Operation Centre	● 100% of requests were responded.
2.4	**Maintain and network for the EOC and Public Health Emergency (PHE) tools**	PHE training: all milestones timely implemented as per roadmap Rate of satisfaction of ECDC partners with collaboration	100% 75%	Emergency Operation Centre Dedicated survey	● PHE trainings for PHE Managers were organized together with external contractors. ● No Emergency Operation Centre EOC network activity took place in 2021 due to the COVID-19 response.

TBA – to be confirmed.

3. Strategic objective 3. Future outlook: prepare for the future through foresight and innovation assessments

3.1 Foresight: work with partners to identify and address key knowledge gaps and areas of uncertainty, and develop new multidisciplinary approaches to prevent and control infectious diseases

In view of the long lead time for developing or implementing public health interventions, and the robust evidence to underpin such interventions, ECDC defined the key gaps and the key sources of evidence for its foresight work through the review of the findings of a scoping review of foresight approaches to infectious diseases completed in late 2020. The findings will be part of the framework for an expert consultation, which had to be postponed until 2022 due to the pressures and restrictions resulting from the COVID-19 pandemic. In 2021, a new framework contract was established, and initial work started at the end of the year with a consortium that will provide evidence reviews on megatrends and micro-drivers likely to influence future infectious disease epidemiology and impact, which will also be used as part of the framework for the expert consultations now planned for 2022.

3.2 Engage: promote innovation through active engagement with EU research and innovation initiatives

Throughout 2021, discussions were held with European Commission colleagues regarding a mechanism for ECDC to provide input into EU research priorities, and a protocol was developed for collating knowledge gaps and research priorities in the field of infectious disease prevention and control as perceived by experts working in ECDC, in national public health institutes, and in other ECDC collaborating partner organisations. The protocol will be piloted in early 2022, with a focus on identifying knowledge gaps and research priorities in respect of COVID-19 prevention and control.

ECDC led an initiative with its partners in the EU Agency Network on Scientific Advice (EU-ANSA) to develop a scientific seminar series to increase awareness of scientific activities between Agencies, to stimulate cross-Agency projects, and to offer a 'shared service' model for continuing professional development of scientific staff in all EU-ANSA affiliated agencies. ECDC co-organised the first seminar in partnership with the Joint Research Centre (JRC), on the topic of COVID-19 and mathematical disease modelling.

3.3 Support transformation: promote and contribute to the Digital Health actions and support Member States in adapting, adopting, and exploiting new technologies for infectious disease prevention and control

ECDC aims to assess and make use of new technologies to modernise its approach to surveillance and risk assessment, in light of the infrastructural development fostered by the European Commission and of the changes in clinical public health practice in Member States.

The new ECDC surveillance portal, EpiPulse, went live with event-based surveillance and network communication functionality and a visualisation tool for EU/EEA whole-genome sequencing data. A proof of concept for indicator-based surveillance (based on COVID-19) was kicked off and is to conclude in 2022.

In 2021, ECDC implemented automatic, electronic health record-based surveillance of Severe Acute Respiratory Infections in seven EU/EEA Member States. A call for tender was launched at the end of 2021 to provide additional resources and technical support to Member States that are moving towards electronic health record-based surveillance. The tender foresees resources to implement SARI surveillance in a larger number of countries, and to pilot this type of surveillance for other priority diseases. Learning from the experience with COVID-19, ECDC extensively supported the European Commission to ensure that funding from the EU4Health programme addresses some of the key surveillance challenges in Member States. A joint action on implementing automated surveillance for pandemic prone diseases was launched by the European Commission, based on the ECDC long term surveillance framework 2021-25.

During 2021, ECDC participated actively towards the implementation of the EHDS, providing the European Commission with requirements for EU-level surveillance and with a use case to be piloted in 2022. The objective of ECDC's use case is to assess the concordance between national AMR surveillance data submitted to ECDC and data from the same country(-ies) and year shared through EHDS. ECDC joined a large European consortium bringing together nine national health data platforms and three research infrastructures answering a call for projects to set up a test version of the EHDS. These surveillance developments were discussed with Member States during the Third ECDC Joint Strategic Meeting. Significant progress was made in the field of epidemic intelligence. A number of processes were automated, and a major automation initiative started to detect and assess signals from large volume of social media data. This resulted in a more comprehensive and accurate monitoring of global signals, including from COVID-19. A new tool was launched (EpiTweetr), and based on the experience acquired, a further automation of the signal detection and assessment process will take place during 2022.

The COVID-19 pandemic also brought along the need for more automated and large-scale contact tracing solutions for Member States. The European Commission has taken the initiative to implement several new interoperability solutions. In 2021, ECDC started to prepare for the takeover of the EFGS, the technical backbone of the contact tracing apps used by Member States. Moreover, Implementing Decision (EU) 2021/858 defines the electronic Passenger Locator Form as a new component of EWRS.

Strategic objective 3. Performance indicators

Action Area	Objective	Performance indicator	Target	Verification	Result 2021
3.1	**Prediction modelling for foresight programme initiated**	Data content developed for models for specified infectious disease drivers: Implementation according to project plan (schedule, resources, and scope)	Less than 20% deviation from the duration, resources, and scope of the initial baseline	Quarterly ECDC Portfolio Steering Committee reporting	● Scenario modelling for COVID-19 conducted, with outputs presented to the Advisory Forum, the Health Security Committee, and published in a peer review journal paper.
3.1	**Expert consultation on simulation models developed by ECDC**	Expert consultations: Implementation according to project plan (schedule, resources, and scope)	Less than 20% deviation from the duration, resources, and scope of the initial baseline	Quarterly ECDC Portfolio Steering Committee reporting	● ECDC coordinated a European COVID-19 Forecast Hub as part of its COVID-related modelling activities.
3.1	**Develop a mechanism for identifying evidence-synthesis needs and knowledge gaps**	Protocol established for the mechanism: Implementation according to project plan (schedule, resources, and scope)	Less than 20% deviation from the duration, resources, and scope of the initial baseline	Quarterly ECDC Portfolio Steering Committee reporting	● Work initiated in 2021.

Action Area	Objective	Performance indicator	Target	Verification	Result 2021
3.2	**Develop a way for identifying and communicating research priorities relevant to the prevention and control of infectious disease**	Protocol: Implementation according to project plan (schedule, resources, and scope)	Less than 20% deviation from the duration, resources, and scope of the initial baseline	Quarterly ECDC Portfolio Steering Committee reporting (Protocol approved by Advisory Forum and Management Board by Q4 2021)	● Protocol developed for collating knowledge gaps and research priorities in the field of infectious disease prevention and control as perceived by experts working in ECDC, in national public health institutes, and in other ECDC collaborating partner organisations.
3.2	**Contribute to EU Joint Actions and EU research projects**	Proportion of EU joint actions in the field of Communicable Diseases to which ECDC contributed	N/A	List of Joint Actions	● Joint Action on real-time surveillance for pandemic prone diseases.
3.2	**Establish stronger links with EU research initiatives, through appropriate engagement with EU research commissioning bodies in priority-setting and evaluation of research proposals**	Identification of research priorities within the domain of ECDC mandate: Implementation according to project plan (schedule, resources, and scope)	Less than 20% deviation from the duration, resources, and scope of the initial baseline	Quarterly ECDC Portfolio Steering Committee reporting	● Discussions were held with European Commission colleagues regarding a mechanism for ECDC to provide input into EU research priorities. Regular participation of ECDC in DG RTD "research to policy action" meetings to facilitate the dialogue between the research community and the public health policy makers, and to ensure the timely translation of research into policy aims to bring together the different initiatives.
3.2	**Collaborate with other EU Agencies, through the EU Agency Network on Scientific Advice , to develop: - Identification and communication of need for research in areas of mutual interest. - Innovative approaches to address issues of mutual interest through scientific collaboration and sharing of expertise in research clusters.**	Statement on shared priorities for research: Implementation according to project plan (schedule, resources, and scope)	Less than 20% deviation from the duration, resources, and scope of the initial baseline	Quarterly ECDC Portfolio Steering Committee reporting	● ECDC chaired the EU-ANSA network for the first 6 months of 2021. ECDC led an initiative with its partners in EU-ANSA to develop a scientific seminar series to increase awareness of scientific activities between Agencies, to stimulate cross-Agency projects, and to offer a 'shared service' model for continuing professional development of scientific staff in all EU-ANSA affiliated agencies. ECDC co-organised the first seminar in partnership with the Joint Research Centre, on the topic of COVID-19 and mathematical disease modelling
3.3	**Explore the feasibility and added public health value of surveillance, based on electronic health records for few diseases in selected countries**	E-health programme: Implementation according to project plan (schedule, resources, and scope)	Less than 20% deviation from the duration, resources, and scope of the initial baseline	Quarterly ECDC Portfolio Steering Committee reporting	● Automated SARI surveillance ongoing in 7 countries Plans for expanding on the number of countries and diseases, through a four-year project.
3.3	**Modernise and integrate EU/EEA surveillance platforms**	Indicator-based surveillance platform downtime EpiPulse internal and external user rating	Downtime reduced by ≥50% compared with baseline User satisfaction ≥80%	IT statistics User survey	● Not achieved for TESSy; baseline comparison for EpiPulse missing, since first year live. ● No user survey conducted.
3.3	**Assess the potential impact on public health key functions of recent advances in digital technology and microbiological diagnostics to guide the future technical direction of the Centre.**	Roadmap for gradual integration of new technologies: Implementation according to project plan (schedule, resources, and scope)	Less than 20% deviation from the duration, resources, and scope of the initial baseline	Quarterly ECDC Portfolio Steering Committee reporting	● Scoping reviews, mapping exercises and technical expert consultation meetings were performed. Findings were published on the ECDC website and will be used to inform the roadmap development.

Action Area	Objective	Performance indicator	Target	Verification	Result 2021
3.3	**Implement the molecular surveillance strategic framework**	Proportion of diseases with integrated WGS surveillance schemes as per strategic framework	>50%	WGS data reported to ECDC	●● 50%: WGS data reported for 10/20 diseases.
3.3	**Automate signal detection from social networks**	Number of new events and threats detected automatically from social media	24 (~ 2 per month)	Epidemic Intelligence tool	●● Done to a great extent. Significant progress planned for 2022 and onwards.

4. Strategic objective 4. Increase the health security in the EU through strengthened cooperation and coordination between ECDC and partners in non-EU countries

4.1 Neighbourhood: develop and implement a comprehensive programme to support the Western Balkans and Turkey and ENP partner countries to strengthen their infectious disease prevention and control systems and public health workforce

With the external financial assistance by the European Commission Directorate-General for Neighbourhood and Enlargement Negotiations under the Instrument for Pre-accession Assistance (IPA), ECDC continued to implement the ECDC Action 'Preparatory measures for the participation of the Western Balkans and Turkey in the European Centre for Disease Prevention and Control with special focus on One-Health against AMR and enhanced SARI surveillance, 2020 – 2024'[1] (ECDC-IPA6 project). In response to the COVID-19 pandemic, ECDC set up enhanced SARI surveillance to support the implementation of fit-for-purpose surveillance systems, as part of the ECDC-IPA6 project. All six beneficiaries in Western Balkans joined. The network covers all respiratory diseases and is therefore an important tool for future pandemic preparedness. In the framework of this project national experts from Western Balkans and Turkey participated as observers in 11 ECDC technical network meetings throughout 2021 and gathered in the Meeting of National ECDC Correspondents in October 2021 to discuss achievements and agree on the future of ECDC cooperation. National ECDC Correspondents of Western Balkans participated in monthly coordination meetings to update each other on the COVID-19 situation and response measures in the countries, and ECDC provided the latest available data and activities. In 2021, the Western Balkans were integrated as observers into the National Focal Points for Viral Respiratory Diseases and their associated network EISN and ECOVID-Net; E-SARI-Net; the external technical assistance to strengthen SARI surveillance in Western Balkans has been provided and will continue in 2022, aiming to enable countries to report SARI data to TESSy as per EU-level standards. Western Balkans and Turkey were included in the ECDC EQA schemes for ECDC-SARS-CoV-2; EQA-AST for FWD; EuroGASP. Preparatory work for the Training of Trainers workshop on Legionnaires' disease for accommodation site managers in Western Balkans was completed and the workshop is planned to take place in-person in 2022. In addition, in 2021, under the European Health Emergency Preparedness and Response Authority incubator activities, ECDC extended the WGS service to the Western Balkans to support the detection of SARS-CoV-2 VOC in a similar way as to the EU/EEA countries.

In 2021, ECDC was delivering the work programme 2021 of the EU Initiative on Health Security[2] (HSI), which is a five-year programme to enhance the public health preparedness and response capacities of European Union enlargement and European Neighbourhood Policy (ENP) partner countries, funded by the Directorate-General for Neighbourhood and Enlargement Negotiations. All fifteen ENP partner countries confirmed their participation, with the last one confirming at the end of December 2021. The programme was implemented through three interconnected work packages:

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[1] https://www.ecdc.europa.eu/en/about-us/who-we-work/international-activities/preparatory-measures-participation-western-balkans

[2] https://www.ecdc.europa.eu/en/about-us/who-we-work/international-activities/eu-initiative-health-security

Workforce oriented capability building was delivered through the Mediterranean and Black Sea Programme for Intervention Epidemiology Training (MediPIET). In June 2021, ECDC organised a kick-off meeting with the MediPIET National Focal Points (NFPs) to formally mark the hand-over from the previous implementer of MediPIET, Instituto de Salud Carlos III and Fundación Estatal, Salud, Infancia y Bienestar Social to ECDC. Following a successful start of MediPIET under ECDC management, the 4th Cohort kicked off with 16 fellows representing 11 partner countries. ECDC organised two modules, the Introductory Course in September with subsequent three Inject days and the Outbreak Investigation Module in December. To support Cohort 4, ECDC successfully launched the MediPIET Programme and Coordination space on the ECDC Virtual Academy (EVA), where fellows, supervisors and the MediPIET team work together. To strengthen the overall capacity within the network, MediPIET supervisors were invited to attend Train the Trainers events, like the ECDC Summer School and relevant capacity building activities within the other work packages. As a side session of ESCAIDE, MediPIET held its Annual Scientific Event to discuss the past and the future of a regional field epidemiology programme in the EU neighbourhood. The session was attended by over 420 participants (unique viewers) from 60 countries around the world, which is the record for any side event in the history of the ESCAIDE Conference. November marked the launch of the MediPIET Training Needs Assessment (MTRNA) 2021. This self-assessment is aimed at identifying training needs, methods, and priorities in intervention epidemiology for the partner countries, as well as the region as a whole and will also serve as a basis for a review of the MediPIET core competencies and curriculum.

Strong alignment and coordination with the ECDC Fellowship Programme (EPIET/EUPHEM) was facilitated by exchange and collaboration among faculty and joint participation of fellows in most online modules.

Strengthening public health systems and capacities to assess, detect, respond and prevent threats from communicable diseases. ECDC organised two five-day basic trainings on epidemic intelligence and rapid risk assessment, a training on the Epitweetr tool for early detection of public health threats from Twitter data, a joint ECDC/Frontex Regional workshop on the science and practice of entry/exit screening, as well as three-day workshop on after-action and in-action reviews. In total, 90 experts from 14 partner countries participated in the trainings and workshops. To adapt to the local context, ECDC translated several training materials, technical reports and methodologies into languages widely spoken in the region.

To engage in a bilateral cooperation with partner countries, become familiar with their public health systems and identify key areas for cooperation, ECDC launched the self-assessment process of public health emergency preparedness and response capacities. The process included data collection from partner countries, bilateral meetings and final reports summarising the main findings and key areas for cooperation within the EU Initiative on Health Security. In total, ECDC produced such reports for nine countries.

Integration into ECDC systems, knowledge sharing and networking. Throughout the year, partner countries who had nominated experts were invited to ECDC organised events like the monthly webinars for NFPs for Preparedness, Response and Threat Detection, the annual meetings of the European Legionnaires' disease Surveillance Network (ELDSNet) and the Emerging Viral Diseases-Expert Laboratory Network (EVD-LabNet) annual meeting. In addition, ECDC opened the possibility for partner countries to join and benefit from capacity building activities offered within EVD-LabNet. ECDC invited partner countries to the European Health Forum Gastein in September and to ESCAIDE in November.

4.2 Major CDCs: increase ECDC's collaboration with major centres for disease prevention and control

Cooperation with other Centres for Disease Prevention and Control (CDCs) across the globe has been amongst ECDC' priorities since its establishment. In 2007, just two years after ECDC was established, the Agency signed Memoranda of Understanding (MoU) with the US, China, Canada CDCs and in 2012, with Israel. During 2021, collaboration with these MoU partners intensified in the form of bilateral meetings and exchanges of expertise. There were also new partnerships with other CDCs in 2021. In June, a MoU with the Ministry of Health of Mexico was signed, and in December with the Health Security Agency of the United Kingdom. A MoU with the Korea Disease Control and Prevention Agency was also signed. Three Memoranda of Understanding signed in one year is a clear and strong signal that ECDC is committed to strengthening and increasing collaboration with partners across the globe to join forces to protect the health of citizens. In addition to these MoU partners, ECDC established bilateral contacts with Australia, India and Japan.

Multilateral cooperation is equally important, and the Network of major CDCs established in 2019, serves as a platform of information and expertise sharing. In 2021, three meetings of the Network were organised and coordinated by ECDC. The main focus of these meetings was COVID-19 and topics such as emergence and spread of SARS-CoV-2 variants (especially P1), the current epidemiological situation concerning SARS-CoV-2 VOC and variants of interest (VOI), ongoing initiatives to strengthen whole genome sequencing capacity for SARS-CoV-2, as well as signals of maternal and perinatal mortality associated to VOC, available evidence of waning immunity after vaccination in different groups, how to tackle non-pharmaceutical interventions (NPI) fatigue, as well as levels of vaccine coverage needed to reduce transmission. These discussions fed into ECDC's outputs such as risk assessments and reports on specific COVID-19 related topics.

With external funding from the Directorate-General for International Partnerships, ECDC started to implement a technical four-year partnership project with Africa CDC entitled 'EU for Health Security in Africa: ECDC for Africa CDC'. The overall aim is to contribute to improving health security in Africa, by sharing EU practices and strengthening Africa CDC capacities in preparedness, surveillance and response to health threats posed by communicable diseases. The project inception phase in 2021 aimed to conduct extensive needs assessments, situation analysis and fact-finding activities with Africa CDC in each technical area of the project. The first Project Steering Committee meeting co-chaired by the two Directors was held in March 2021 and agreed on the way forward of the inception phase. As a result:

- In the area of preparedness and outbreak response, the project included mapping and prioritisation of needs and potential areas of support on disease profiles at the African level and continental multi-hazard, multi-sectoral contingency plans; a report on risk assessment methodologies used by Africa CDC and other organisations was prepared; rapid risk assessment (RRA) training for Africa CDC stakeholders was held on 29 and 30 November, based on ECDC methodology and guidelines on RRAs;
- In the area of indicator-based surveillance and event-based surveillance, a protocol on mapping of early detection procedures and tools of epidemic intelligence used at regional and continental levels by Africa CDC was agreed upon, using inter alia completed mapping exercises and analysis of available documents; a protocol on mapping of existing networks, interoperability, gaps, strengths, and situation analysis on indicator-based surveillance and data sharing was also prepared. Defining priority areas to support harmonised One Health/antimicrobial resistance (AMR) surveillance at continental level in Africa is under discussion;
- In the area of continental public health workforce development, the mapping of public health training resources, identification of capacity gaps and training needs, training platforms used by Africa CDC, Regional Collaborating Centres (RCCs) and Member States, defining quality criteria to appraise the identified courses was started. A joint workshop with key partners on workforce development to enable exchange of practices in field epidemiology training programmes in the EU and AU Member States was held on 23 November 2021.

4.3 Coordination: ensure seamless coordination with EU and international partners to enable achievement of common objectives

ECDC has further strengthened the coordination and collaboration with key partners, both at the EU and at the global level, including:

- Coordinating with the EU Institutions and bodies, particularly the European Commission (Directorate-General for Health and Food Safety, European Health Emergency Preparedness and Response Authority, Directorate-General for European Civil Protection and Humanitarian Aid Operations, Directorate-General for Neighbourhood and Enlargement Negotiation, Directorate-General for International Partnerships, Joint Research Centre) and the European External Action Service, to ensure ECDC international actions are coherent with the EU's priorities and policy objectives.
- In 2021, ECDC's collaboration with the European Parliament, in particular with the Committee on the Environment, Public Health and Food Safety ENVI, and with the Council of the EU was further strengthened with topics such as preparedness and response to the COVID-19 pandemic and the reinforced ECDC mandate high on the agenda. ECDC also participated in hearings with the European Economic and Social Committee and with the European Committee of the Regions on these issues.
- Collaboration with other EU agencies in particular the European Medicines Agency, the European Aviation Safety Agency, the European Maritime Safety Agency, the European Union Agency for Railways, and FRONTEX around issues related to COVID-19 was intensified during 2021.

Close collaboration with WHO continued in 2021. ECDC and the WHO Regional Office for Europe held three meetings at the Directors' level to discuss and align strategic priorities of the two organisations, including collaboration during the COVID-19 pandemic. The strategic dialogue and emergence of new areas for cooperation triggered preparations for the revision of the Memorandum of Understanding between the two organisations, to be concluded in 2022. On a technical level, ECDC and the WHO Regional Office for Europe have worked very closely and jointly implemented on 66 activities within different disease programmes. ECDC also initiated contact with the WHO Hub for Epidemic and Pandemic Intelligence.

Strategic objective 4. Performance indicators

Action Area	Objective	Performance indicator	Target	Verification	Result 2021

4.1	**Gradually integrate the Western Balkans and Turkey into ECDC systems and networks via enhanced technical cooperation and support their preparations for participation in ECDC activities and their advancement on 'One Health' approach against AMR**	Participation rate and satisfaction in ECDC activities by the Western Balkans and Turkey
		
		Technical cooperation on One Health against AMR: Implementation according to project plan (schedule, resources, and scope)
			85% participation and 80% satisfaction
			
			Less than 20% deviation from the duration, resources, and scope of the initial baseline
				This includes:
				   Attendance of meetings (source: SRM)
				   Participation in surveys (e.g., ENLabCap)
				   Data reporting (Tessy)
				Quarterly ECDC Portfolio Steering Committee reporting
					● Participation rate irrelevant as an indicator due to transition to virtual/hybrid meetings; ENLabCap survey did not take place.
					● Satisfaction measurement will be coordinated with the ECDC stakeholder satisfaction survey.
					● Achieved.

4.1	**Support the progressive integration of ENP partner countries into ECDC activities and enhance health security through improving public health systems capacities and capabilities, including training through the continuation of MediPIET to respond to health threats related to communicable diseases and enhancing regional cooperation**	Activities as described in the EU Initiative on Health Security: Implementation according to project plan (schedule, resources, and scope) Attendance rate and satisfaction in meetings and ECDC activities by ENP countries	Less than 20% deviation from the duration, resources, and scope of the initial baseline 85% participation and 80% satisfaction	Quarterly ECDC Portfolio Steering Committee reporting SRM system, and EIC section statistics	● Activities executed as planned with the pandemic related deviations that are less than 20% from the duration, resources, and scope of the initial baseline. ● Average participation rate is within the set target of 85%. ● Feedback collected through surveys indicates high level of satisfaction with the events within the set target of 80%.
4.1	**Following the request from European Commission, continue assessment of partner non-EU countries and follow-up the assessment of the Western Balkans and Turkey and ENP partner countries**	Uptake of ECDC recommendations by countries Number of countries who have developed a post-assessment action Plan	65% tbc	EIC section statistics tbc	● Uptake of recommendations: Kosovo-81%, Montenegro- 100%, North Macedonia-50%, Serbia-72%. ● 4 out of 6 assessed countries developed action plans (Kosovo, Montenegro, North Macedonia, and Serbia).
4.1	**Manage MediPIET, under the ECDC Action on strengthening health security in EU neighbourhood financed by the European Commission**	Number of MEDIPIET enrolled fellows per country Proportion of participants that consider the training useful Proportion of countries that consider the training useful	bc 0% 80%	MEDIPIET statistics Satisfaction forms Assessment performed during the annual meeting	● Programme runs as per plan with 16 fellows enrolled. ● Not measured. ● Not measured.
4.2	**Strengthen bilateral and multilateral collaboration with major CDCs for which cooperation agreements are signed and with potential new bilateral cooperation partners**	Rate of implementation of Joint action plans, when available	70%	Joint action plans	● 60%. Work partially started due to focus on COVID-19 activities.
4.2	**Evaluation and consolidation of cooperation within the network of major CDCs and expansion of the network**	Attendance rate in ECDC meetings	85%	Attendance to both virtual and physical meetings organised by ECDC	● 80%. Evaluation project started in December.

Action Area	Objective	Performance indicator	Target	Verification	Result 2021
4.2	**Initiate the implementation of a technical partnership project 'ECDC4Africa CDC' to contribute to health security in Africa by sharing EU practices and strengthening Africa CDC capacities in preparedness, surveillance, and response to health threats**	"ECDC4Africa CDC" project: Implementation according to project plan, as agreed with Africa CDC (schedule, resources, and scope)	Inception report with plan of activities	Quarterly ECDC Portfolio Steering Committee reporting	● Partially achieved Needs identification in various technical areas has been initiated, but not fully achieved as per agreed schedule, resources, and scope, thus the inception phase has been extended to Q2 2022.
4.3	**Nurture the collaboration and coordination with the EU Institutions and bodies particularly the European Commission (Directorate-General for Health and Food Safety, European Health Emergency Preparedness and Response Authority, Directorate General for European Civil Protection and Humanitarian Aid Operations, Directorate-General for Neighbourhood and Enlargement Negotiations, Directorate-General for International Partnerships, DG JRC) and the European External Action Service and other EU agencies in particular with the European Food Safety Authority (EFSA) and the European Medicines Agency (EMA)**	Number and proportion of requests from the European Commission and Member States answered within agreed deadlines

Number of references to ECDC in the EU legislation or in EU policy documents | 95%

TBC | SARMS

Bibliometric analysis | ● 100%

● Not measured. |
| 4.3 | **Invest in maintaining appropriate relationships with the European Parliament, in particular with ENVI** | Number and proportion of requests from the European Parliament answered within agreed deadlines

Participation by ECDC to European Parliament events and meetings | TBC | SARMS

Stakeholder Relations Management system (SRM) | ● 100%

● 17 events and meetings with EP Committees and MEPs attended. |
| 4.3 | **Enhance further collaboration with WHO to ensure complementarity of actions and avoid duplication of efforts** | Rate of implementation of annual joint action plan | 90% | Monitoring of Annual Joint action plan | ● 85% |

TBC – to be confirmed.

5. Strategic objective 5. Transform the organisation to the next generation ECDC

5.1 Integrated management framework: increase organisational effectiveness and efficiency through improved processes and enhanced monitoring of organisational performance

In the beginning of 2021, the ECDC Director approved the ECDC Integrated Management Framework (IMF) document, describing the four pillars of the system, namely governance, organisational performance management, quality management, and internal control framework, and two cross-cutting areas: innovation and change management. The objectives of the IMF are to improve the clarity and transparency of the framework in place, while ensuring that it is not overcomplicated and minimising its administrative burden; equip all ECDC staff with an easy access to the documentation describing how ECDC is run and how activities are done in the Centre; and to

ensure that ECDC management is provided with the information needed to take well-informed and timely decisions.

The IMF working group was established to support the further development and improvement of the IMF and its main task in 2021 was to support the Executive Office in finalising the IMF implementation plan 2022-2027, which provides the future state of the IMF and the steps to be taken in all the areas included in it.

In 2021, within this framework, the implementation of a new instructional document management system was initiated, as well as the work to review and optimise existing processes. Furthermore, in the coming years the Centre will pursue implementation of an ISO 9001:2015 based quality management system. In 2021, a gap analysis which will feed into an implementation plan of the future quality management system, was carried out as part of the IMF implementation plan. As all the work in the context of the IMF will change the way ECDC works, the change management element was introduced in these projects.

In accordance with the Integrated Management Framework, ECDC successfully pursued the assessment and initial development of its IT systems and architecture for support and steering activities. During the period, a comprehensive analysis of systems and requirements in several key areas such as planning and monitoring, human resources and finance, service delivery, e-workflows, and enterprise content management was undertaken, leading to the establishment of an initial tranche of work under a wider programme. The first tranche focuses on a new planning and monitoring system, tools for developing and monitoring key performance indicators, data management, business processes, e-workflows, and the optimal solution for events and logistics management. The individual projects are at various stages of implementation that will continue into 2022 and beyond. The large area of work in 2021 was the feasibility study for the new ECDC planning and monitoring system, which will continue in 2022 with proof-of-concept studies to select the most suitable system foreseen to be implemented in 2023. This system will replace the present management information system.

ECDC made good progress in several administrative areas in 2021. Work has commenced on a 'People Strategy' as an overarching framework for how ECDC supports and invests in its staff to achieve its overall vision. The definition of the pillars in the framework is ongoing, while individual projects under the strategy have commenced in specific instances. Electronic workflows and signatures were further consolidated, leading to a mostly paperless organisation. Notable achievements in this regard were made in financial management and procurement (electronic workflows for commitments and solicitation processing), as well as processing staff training. Driven by the changes in working modalities due to the pandemic, ECDC conducted a workplace assessment that will help guide its future approach to service delivery in its physical and IT spaces.

5.2 Engaged staff: recruit and retain capable, motivated, and resilient staff

2021 was characterised by a significant volume of recruitment, associated on-boarding of new staff, support services to ensure the wellbeing of personnel and projects to improve HR services in the long run. The aforementioned 'People Strategy', will guide the modernisation and consolidation of ECDC's HR management services in the years to come. Individual projects under the strategy have already commenced in specific instances (e.g., skills-development project, revamped induction programme, actions aimed at respect at the workplace, and e-recruitment), whereas others will follow in due course.

5.3 Stakeholders and external communication: enhance the transparency, visibility, and availability of ECDC's outputs

It is ECDC's obligation to communicate the results of its work and to provide objective, reliable and easily accessible information about communicable diseases to target audiences and stakeholders through the ECDC website and other relevant channels, as well as to work in collaboration with the European Commission and Member States on risk communication and campaigns.

In addition, Member States consider consistent communication messages to citizens based on robust and independent evaluation of public health risks a vital area of cooperation when responding to serious cross-border health threats.

The latest ECDC Communication Policy was developed and approved in 2021. The purpose of the policy is to define the actions and areas of work for ECDC within communications for the period 2022-2027 and to establish a common understanding of the Centre's target audiences, stakeholders, as well as internal and external priorities. It builds on previous experiences and incorporates the findings and recommendations of evaluations, audits and performance analysis conducted both within and outside the context of the COVID-19 pandemic. It also reflects the needs and media use of its target audiences and stakeholders, as well as the current trends and innovations in e.g., risk communication, crisis communication, and behavioural/social science research, amongst others.

While ECDC continued having a high level of media attention (through traditional and social media and through its websites), there were noticeable decreases in some f communication indicators, which is not unexpected and only a result of the natural evolution of the COVID-19 pandemic and its impact on the interest of ECDC's target audiences. Nevertheless, all figures remain significantly higher when compared with before the pandemic.

Throughout 2021, as well as performing routine communication work, ECDC marked a number of awareness days such as World Tuberculosis Day, World Hepatitis Day, World Hand Hygiene Day, World Field Epidemiology Day, Flu Awareness Week, European Immunisation Week, World AIDS Day, and European Antibiotic Awareness Day, with the development of communication campaigns, including public health messages and using traditional media, social media, videos, toolkits, infographics and other materials. Some of these materials were translated and shared with partners and stakeholders across the EU.

Press and media

In 2021, ECDC continued to engage actively with journalists across the EU and internationally regarding the COVID-19 pandemic, influenza, antimicrobial resistance, and other topics. In close cooperation with the European Commission, the Health Security Committee Communicators Network and the WHO Regional Office for Europe, ECDC provided EU-wide communication response to public health issues.

The press office received 963 media requests in 2021 (50% fewer requests than in 2020) from various media sources. These requests ranged from interviews with experts to written replies. Experts gave 115 media interviews over the course of the year, and the press office provided 732 written responses.

The requests came from a wide range of sources, from major international news outlets and wire agencies to fact-checking organisations. Over the entire year, the largest number of requests came from the BBC (44 – radio, television, and online news articles), Reuters (30), Sveriges Radio (21), AFP (19), RTE (19) and Politico (18). Andrea Ammon gave the most interviews (24), followed by experts such as Bruno Ciancio (17), Piotr Kramarz (12), Josep Jansa (10) and Pasi Penttinen (7).

ECDC was continuously present in mainstream media during 2021, with 56 069 clippings in the European and international media. Most of the coverage was neutral or positive and included content related to COVID-19, vaccination issues and antimicrobial resistance. A high volume of articles and other outputs originated in Italy, Greece and Portugal. The ECDC press and media team added 466 journalists to its journalists' database (compared with 357 in the previous year).

Figure 14. Number of requests to the press office 2016-2021
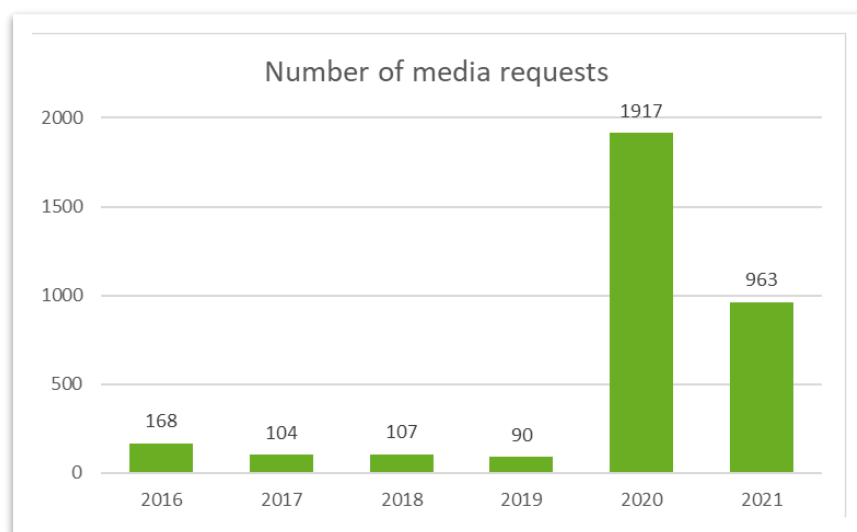
Social media

The number of followers on ECDC's corporate Twitter account (@ECDC_EU) grew by 21 246 new followers, up from 74 314 followers in 2020, to 94 560. ECDC's outbreaks Twitter account (@ECDC_Outbreaks) grew by 3 044 new followers, reaching 23 482 in total. ECDC now has 148 000+ followers across nine Twitter accounts, which represents a 18% increase compared with 2020.

The top performing tweets from ECDC_EU in 2021 included the face masks video (827K impressions, 8K engagements), the maps in support of the Council recommendation on a coordinated approach on travel measures (best: 606K impressions, 140K engagements), the face masks report update and related infographic (360K, 7K), the first threat assessment brief about the Delta variant (226K impressions, 3.4K engagements), a rapid risk

assessment published in February (320K impressions, 3K engagements) and news about the Janssen vaccine approval (130K impressions, 0.7K engagements).

The number of fans and followers on the ECDC Facebook page continued to increase, amounting to 59 732 fans (44% increase) and 263 206 followers (13% increase). Most of the ECDC Facebook fans and followers come from Italy, Germany, Spain, Romania, France and Portugal.

A total of 294 posts were published (38% decrease), reaching 19 million users. The top content on this platform included news about the approval of the Spikevax vaccine for 12- to 17-year-olds (250K reach), the maps in support of the Council recommendation on a coordinated approach on travel measures (all of them, reach ranging from 150K to 250K), an infographic about the variants of concern (199K), news about AstraZeneca's investigation of side effects (190K), a hand hygiene video (164K).

In 2021, there were 365 LinkedIn page updates, reaching 1.8M users, gaining 97K clicks, 27K reactions (likes), more than 500 comments and 5.6K shares. The top performing posts were the first ECDC Director statement on Omicron (22.3K impressions, 8.5K views); a hand hygiene video (posted three times: 60K, 20K), the infographic about the variants of concern (23K, 1K), and the mosquito handbook (16K, 2K).

Figure 15. **Some of the top performing content on social media in 2021**
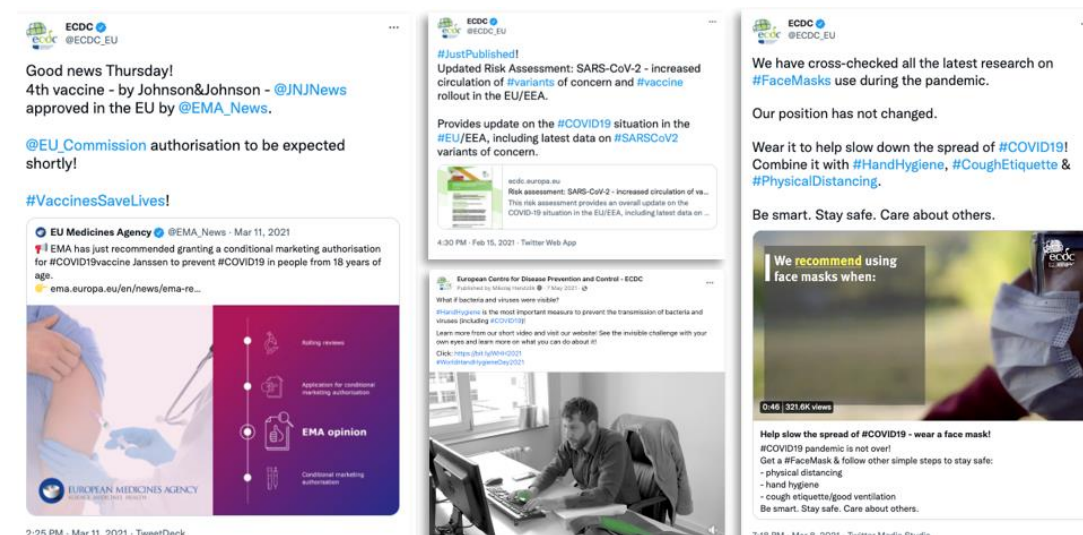
Table 4. **Follower count for all ECDC social media accounts in 2022 and 2021**

Channel	Accounts	December 2020 Followers	December 2021 Followers
Twitter (followers)	ECDC_EU	**73 314 (+43 569)**	**94 560 (+21 246)**
	ECDC_TB	3 278 (+364)	3 639 (+361)
	ECDC_Flu	6 991 (+2 329)	7 584 (+593)
	ECDC_VPD	5 888 (+902)	6 463 (+575)
	ECDC_HIV/AIDS	2 939 (+537)	3 185 (+246)
	ECDC_Outbreaks	**20 438 (+13 463)**	23 482 (+3 044)
	EAAD_EU	4 121 (+346)	4 368 (+247)
	ESCAIDE	1 979 (+464)	2 272 (+93)
	ECDCPHT	2 472 (+554)	2 827 (+355)
Facebook (likes)	ECDC	**41 383**	**59 731* (+18 348)**
	*following	**234 019**	**264 439 (+30 420)**
	ESCAIDE	1 229	1 370 (+141)
	EAAD	13 846	13 814 (-32)
LinkedIn (followers)	ECDC	**32 229**	**41 648 (+9 419)**

Websites

The ECDC website continued to have high traffic in 2021, although not as high as in 2020, with a peak in July, due to the high interest in the maps in support of the Council recommendation on a coordinated approach on travel measures, ahead of the summer season and because of an increase of COVID-19 cases in some parts of Europe. The highest number of page views in one day was recorded on 15 July with 324 882 views. There were 18 043 416 page views, representing a 43% decrease compared to 2020.

Overall, 10 863 890 website sessions were recorded during 2021, compared with 18 330 149 in 2020 (41% decrease). Additionally, there were 406 545 pdf downloads in 2021, compared to 572 051 downloads in 2020 (29% decrease). The majority of visits on ECDC's website came from Europe, with 9.5 million sessions (40% decrease) recorded from users in European countries. 600 261 sessions were recorded from Asia, followed by the Americas (451 762), Africa (146 456) and Oceania (36 577).

The proportion of returning visitors decreased slightly compared with 2020 (58% to 54%). However, the higher percentage of 'returning' to 'new' visitors suggest users continue to value the ECDC website as a reliable source of information and data throughout the pandemic. Returning users accounted for 48% of traffic pre-pandemic.

Although there are noticeable decreases in visits and sessions, this is not unexpected and probably a result of the evolution of the COVID-19 pandemic. However, traffic remains higher than before the start of the pandemic.

Figure 16. **Page views of the ECDC website in 2021 by month**

Figure 17. **Page views of the ECDC website from 2012 to 2021**

Table 5. **The most popular web pages in 2021**

	Page	Views
1.	Weekly Council Recommendation maps	4,465,527
2.	Daily situation update EU/EEA	4,191,405
3.	ECDC homepage	1,224,112
4.	Weekly situation update worldwide	1,132,437
5.	COVID-19 landing page	664,970
6.	COVID-19 situation updates	655,126
7.	Weekly country overview	615,362
8.	Data on 14-day notification rate of new COVID-19 cases and deaths	341,545
9.	Data on the daily number of new reported COVID-19 cases and deaths by EU/EEA country	199,786
10.	Data on COVID-19 vaccination in the EU/EEA	182,551

Between 1 February and 31 December 2021, the COVID-19 situation dashboard (desktop version) received 1 273 270 page views. The mobile version received an additional 68 054 views. Similarly, ECDC website traffic peaked in mid-July with 10 259 page views recorded on Thursday 15 July. Since its launch in February 2021 and as of 31 December 2021, the COVID-19 Vaccine Tracker (desktop version) received 1 353 169 page views. The mobile version received an additional 345 246 page views.

ECDC launched the European Vaccination Information Portal in April 2020 as a cross-agency/EU project, 'An initiative of the EU'. It was developed in close collaboration with the Directorate-General for Health and Food Safety and the European Medicines Agency (EMA) in the context of the Council Recommendation on strengthened cooperation against vaccine-preventable diseases (adopted in Dec. 2018) in which ECDC was tasked to establish the website.

The website is available in all EU/EEA languages and is written for non-technical audiences. As more content was added on COVID-19, it had a significant increase in popularity throughout 2021. In 2021, the EU Vaccination Information Portal received 1 512 351 page views (95% increase) and 955 494 sessions (96% increase). Traffic peaked in October when the website received 192 323 page views over the month.

Figure 18. **EU Vaccination Information Portal web statistics 2021**

Audiovisuals

ECDC published 74 infographics, posters, and animations on its social media channels, mostly on COVID-19 but also about antibiotic resistance and influenza. The topics included vaccination rates, the importance of vaccines, the use of masks, the fact that antibiotics don't work for COVID-19 and the need to protect the frail during the influenza season 2021-2022. Some of these materials were translated and made available on the ECDC website, as well as shared in editable versions with partners and stakeholders across the EU.

ECDC produced 69 videos (23% increase compared with 2020) and published most of them on YouTube, getting 1.7 million impressions (32% decrease) and 127K views (28% decrease). The current subscriber count is 2 870, up by about 300 from 2021. Most videos have also been shared on ECDC's social media accounts, becoming some of the most popular content as described in the social media section.

In August 2021, ECDC started publishing a bi-weekly podcast – ECDC: On Air. 12 episodes were aired, gathering 4 157 plays. The podcast is available on all major podcasting platforms (Spotify, Apple Podcasts, Google Podcasts and others), as well as YouTube and SoundCloud. The most popular podcasts were those about the start of the pandemic, vaccine hesitancy and misinformation, the Director's insights and ECDC's work brining experts together. Two Twitter Spaces took place, and the recordings are publicly available.

Figure 19. A selection of videos published in 2021
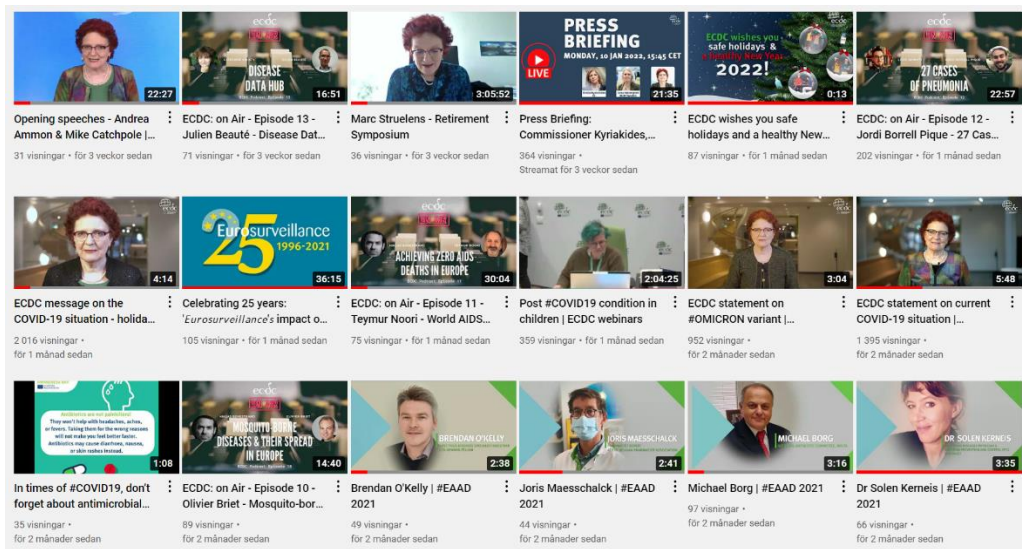
Marking awareness days

On the occasion of World Tuberculosis Day, World Hepatitis Day, World Hand Hygiene Day, World Field Epidemiology Day, Flu Awareness Week, European Immunisation Week and World AIDS Day, ECDC used the opportunity to inform interested public and technical experts alike about the Centre's work in the area and shape respective public health messages. As in previous years, ECDC, in collaboration with the WHO Regional Office for Europe published joint enhanced surveillance reports on tuberculosis and HIV/AIDS, regular influenza updates and joint news items.

In support of world health days, ECDC developed communication campaigns, using traditional media, social media, videos, toolkits, infographics and other materials that were shared with partners and stakeholders across the EU and that could be easily adapted to local languages and practices.

European Antibiotic Awareness Day was marked on 18 November 2021 with a digital campaign[1] and in partnership with the World Antimicrobial Awareness Week. Video statements[2] from high-level speakers and experts from EU/EEA countries were published across channels. A collaboration with 27 social media ambassadors from 19 EU/EEA countries who highlighted European Antibiotic Awareness Day key messages on prudent use of antibiotics and antibiotic resistance in their national languages was also in place, accounting for a total of 157 publications social media publications. Other activities including a Twitter Space on antibiotic resistance, media relations, web updates, a digital launch event[3] as part of ESCAIDE with more than 200 active participants, a global Twitter storm together with partners across the globe, enhanced collaboration with EU-level professional and patient organisations. A communication toolkit including the latest data and editable materials was shared with partners and stakeholders in October.

Internal communication

In 2021, 314 news items were published on the ECDC Intranet. The most popular content was related to staff issues such as working from home, voluntary return to the office, and vaccination possibilities in Sweden, amongst others. Awareness days were also marked internally, highlighting the contributions from colleagues from different sections and Units. More than 30 news items were about the Director's speaking engagements, to ensure transparency but also to invite staff to participate in events that were open to the public. Summaries of ECDC appearances in media were also published weekly, with a link to the media monitoring reports produced externally.

A special focus was given to ECDC's strengthened mandate, through enhanced use of internal communication channels to share information, including a dedicated Intranet page, news items when significant developments took place, features on the internal newsletter ECDC on the spot, regular updates during the Director's Weekly Briefings, and a dedicated inbox for questions from staff. The Communication Section launched the Meet Your Colleagues series, which was a way to learn more about staff, and to connect at a different level while so many were working from home.

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[1] https://bit.ly/EAAD2021Digital

[2] https://bit.ly/EAAD2021YT

[3] https://www.escaide.eu/en/news-events/european-antibiotic-awareness-day-2021-eaad-event

Other information sharing mechanisms and outputs

ECDC continued producing the weekly COVID-19 policy brief, with 51 issues delivered to the Commissioner's team and other colleagues at the European Commission. The objective of this output is to present short and easy-to-read analysis of key indicators, trends and developments of the COVID-19 pandemic in the EU/EEA. Along with latest epidemiological trends and updates on measures taken by Member States, the policy brief informs about the latest outputs by ECDC, with a particular focus on policy implications.

The annual meeting of the National Focal Points for Communication took place in September 2021 and provided a platform to discuss the challenges and opportunities experienced by communicators in the EU/EEA countries during the COVID-19 pandemic, to look into lessons and to learn from leading experts about misinformation, disinformation and infodemic management in the context of the pandemic.

3 545 information requests (9% decrease) were registered. Those requests were partly replied to by communication officers directly, partly by the mailroom with advice from the Communication Section, while others were forwarded to other groups or staff across ECDC. Finally, the publication newsletter had 5 366 subscribers in 2021, which represents a 5% decrease compared with the previous year.

In 2021, ECDC continued nurturing the relationship with its host country, Sweden, and with key stakeholders at the EU-level, such as the collaboration with the EHFG. The ECDC session at EHFG 2021 which took place on 28 September, focused on 'Community engagement during health emergencies - Integrating lessons learned from the COVID-19 pandemic'. The feedback received from the participants was very positive.

Strategic objective 5. Performance indicators

Action Area	Objective	Performance indicator	Target	Verification	Result 2021
5.1	Review and mapping of ECDC key processes	Proportion of key processes reviewed and mapped Proportion of processes digitalised as per roadmap for digitalisation	20% 100% as per roadmap	Monitoring of the list of key processes Monitoring of the roadmap for process digitalisation	● 20% of key processes reviewed. ● 100% (14 processes) digitalised.
5.1	Introduce an integrated management framework *(including frameworks for governance, performance management, quality management system and internal controls)* and a learning culture	Proportion of activities implemented of the annual work programme Rate (%) of external and accepted internal audit recommendations implemented within agreed deadlines (excluding 'desirable') Integrated management framework: proportion of deliverables timely implemented as per project plan	85% 90% 100%	Annual report Internal control Project plan	● 74% ●● 0% within original target deadlines, however, 100% of the recommendations open at the end of 2020 implemented in 2021. ● 75% (3 out of 4 roadmaps developed).
5.1	Initiate the implementation of the selected Quality Management system at ECDC	Implementation of the selected Quality Management system at ECDC: Implementation according to project plan (schedule, resources and scope)	Less than 20% deviation from the duration, resources, and scope of the initial baseline	Quarterly ECDC Portfolio Steering Committee reporting	● 100%
5.1	Implement integrated system of Key Performance Indicators to support the achievement of Strategic Objectives	Key performance indicators management process: Implementation according to project plan (schedule, resources and scope) Rate of completeness of the KPI results reported in the annual report Percentage of indicators reaching the target (90%)	Less than 20% deviation from the duration, resources, and scope of the initial baseline 100% 90%	Quarterly ECDC Portfolio Steering Committee reporting ECDC annual report ECDC annual report	● Project completed on time, within planned resources and scope ● 81% of KPIs results measured ● 73% of measured KPIs reach the target
5.1	Gradual implementation of the roadmap for the IT Integrated Management Systems	Roadmap for IT Integrated Management Framework systems: all milestones timely implemented as per roadmap	90%	Project/programme documentation	● Roadmap and its tranches defined, 90% of tranche 1 implemented.

Action Area	Objective	Performance indicator	Target	Verification	Result 2021
5.1	**Implement the action plan stemming from ECDC third external evaluation**	Action plan implemented according to the proposed timeline	Implementation according to project plan (schedule, resources and scope)	Action plan as approved by the Management Board	● 75% (Delays due to change of mandate)
5.2	**Transform human resources management and provide effective and efficient Human Resources services**	Proportion of organisational entities (units, sections, groups) covered by the Skills gap analysis	100%	Results of the skill gap analysis	● 100% of the entities are part of the project plan, and project will end in 2022.
		Timeliness of recruitment process	12 weeks as from vacancy notice deadline	HR services statistics	● 8 weeks.
					● 61%
		Percentage of staff satisfaction/engagement	75%	Biannual staff survey	● Sick leave: 1.10% short term and 2.48% long term
		Number of sick leaves (short-term and long-term)	<2% (short-term) <3% (long-term)	HR statistics (Short-term up to four weeks; long-term: four weeks and longer)	● 4.8%
		Average vacancy rate for Temporary Agent posts (post occupied)	<5%	% of authorised posts of the annual establishment plan (temporary agents) which are vacant at the end of the year, including job offers sent before 31 December.	
5.3	**Develop a comprehensive stakeholder engagement programme to identify, engage and mobilise institutional and non-institutional stakeholders**	Mapping of stakeholders: Implementation according to project plan (schedule, resources and scope)	Less than 20% deviation from the duration, resources and scope of the initial baseline	Quarterly ECDC Portfolio Steering Committee reporting	● The project was deprioritised because of COVID-19 work and high workload in the Procurement section. First phase planned to be implemented in 2022.
5.3	**Improve and further develop ECDC online presence strategically, ensuring that the content on its main website and its sub-sites is driven by audience-oriented content strategy, improving the transparency, visibility and availability of ECDC outputs**	Number of visitors and sessions	+10% +5%	Website statistics	● Visits -40% ● Sessions -41%
		Number of downloads on the website (measures users re-use ECDC data and publications)	+7%		● Downloads -29
		Proportion of returning vs new visitors on the website (measures visitors' loyalty and engagement)	Above 40%		● Returning visitors 54%
5.3	**ECDC will redefine and enhance its social media presence and engagement**	Number of followers and rate of engagement and interaction with of ECDC social media channels	+20%	Social media statistics	● Followers and engagement rate +20%
		Number of participants to online and offline events	+20%		● Not available.
		Number of participants in online campaigns and discussions	+20%		● Not available.
		Number of multimedia content produced	+20%		● Multimedia content +20%
5.3	**Develop and implement a Public relations plan to foster ECDC's reputation management**	Public relations plan: Implementation according to project plan (schedule, resources and scope)	Less than 20% deviation from the duration, resources and scope of the initial baseline	Quarterly ECDC Portfolio Steering Committee reporting	● The project was deprioritised because of the COVID-19 work and high workload in the procurement section. The first phase is planned to be implemented in 2022.

Action Area	Objective	Performance indicator	Target	Verification	Result 2021
5.3	**Maintain and enhance the cooperation with key stakeholders at the EU-level, including relations with our host country**	Satisfaction of participants at Gastein seminar	80%	Participants' survey	● EFHG survey sent out to participants. Very positive feedback received on Community engagement session[1].

6. Support services

6.1 Digital Transformation Services

Digital Transformation plays an important role in enabling ECDC's core missions such as disease surveillance, epidemic intelligence, and response. Some key information systems operated by ECDC are the EpiPulse portal, the Event and Threat Management Solution (ETMS), the European Surveillance System (TESSy), the ECDC web portal, and the EU's Early Warning and Response System (EWRS) for public health threats, which the Centre operates on behalf of the European Commission. Developing, operating and maintaining these systems at all times requires highly secure, interoperable and robust infrastructures. In addition, ECDC depends on IT systems to support its administrative processes.

Digital Transformation is strategically governed and enables ECDC's mandate with fit-for-purpose, interoperable, sustainable, innovative and best-value-for-money services.

During 2021, large scale IT projects in the area of surveillance were delivered. The Event and Threat Management Solution (ETMS) went live with improved support for events and threats detection and display of event-based surveillance information in the EpiPulse portal. The new system replaces the current Threat Tracking Tool and EPIS applications. Other major upgrades released in 2021 include the new SARMS, the SRM events module and several e-workflows in the administrative area. New projects have also been launched such as the Enterprise Content Management Platform and the new Planning and Monitoring System.

The COVID-19 pandemic has put a high strain on TESSy, our surveillance system, with higher service requirements to support the higher volumes of data uploads. Urgent measures were implemented to improve TESSy's capacity and a proof of concept for a full replacement based on state-of-the-art technology was initiated. ECDC also released frequent updates of its COVID-19 and Vaccine Tracker dashboards to cope with the evolving information needs of its stakeholders.

With the increased number of new personnel to support the Centre's activities, the Front Office team has onboarded 205 new persons throughout the year compared to an average baseline of 120 newcomers in previous years. With the increased need of working from home, ECDC has fully adopted MS Teams and all meeting rooms in the ECDC premises have been prepared to support hybrid meetings.

The deployment of Microsoft 365 was completed, starting with a set of Data Protection Impact Assessments for Microsoft 365. This enabled to continue the rollout of Exchange Online, OneDrive, MS Defender, SharePoint Online, MS Teams and Dynamics CRM Online.

2021 also paved the way for future work with a record number of 16 feasibility studies completed, the definition of the 2022 IT Work Programme, and the preparation of the Digital Roadmap 2027 which identifies the business objectives and digital outcomes needed to enable the ECDC Strategy 2021-2027. ECDC has initiated a feasibility study for the review of its IT Target Operating Model which will help prepare the procurement procedure for the next generation framework contracts. Finally, a study on Integrated Digital Surveillance System (IDSS) was initiated to understand how the ECDC application landscape must change to support the new mandate.

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1 https://www.ehfg.org/documents/EHFG2021/Outcomes/#page=1

Table 6. List of mission-relevant IT solutions (not exhaustive)

System/application	Description
ECDC KM Systems	From Q1 2022, Knowledge Management tools within the European Centre for Disease Prevention and Control (ECDC) will primarily leverage the forthcoming Enterprise Content Management Platform, which provides a unified portal for information held within the Centre's electronic document repositories and the content management systems for ECDC's 'Intranet' and 'Extranets'. It provides a single, unified search interface (Enterprise Search) and functionality to ensure consistent metadata-tagging and terminology management.
Document Management System	Supports the management of electronic formats of documents, providing a single point of controlled access for documents in the Centre, contributing to the reduction of paper-based processes.
Early Warning and Response System (EWRS)	A rapid alert system that supports critical communication about serious cross border health threats, in accordance with Decision 1082/2013/EU, through a web-based platform used to exchange information on public health threats, between the European Union/European Economic Area (EU/EEA) Member States, the European Commission, other EU agencies and the World Health Organization (WHO).
ECDC data warehouse	ECDC's data warehouse hosts all indicator and event-based surveillance data along with determinants of health data. It covers information relevant for performing standard or specific epidemiological surveillance analysis and reporting, along with harmonised terminology between datasets for all the communicable diseases and related special health topics covered by ECDC. In addition, through its dataset management and storage, ECDC data warehouse supports the ECDC Open Data Framework.
ECDC extranets	Support collaboration of public health networks, working groups and institutional bodies (Management Board and Advisory Forum). Currently ECDC manages >20 extranets. In 2016, a major migration took place to an updated platform, making new functionalities available and bringing improvements to the user interface.
ECDC Library	The Library provides information delivery services by making available tools to ease access to information. The Library is developing its collection (both electronic and print) and provides services both via the Library Intranet and the physical area.
ECDC Virtual Academy (EVA)	Launched in 2014, EVA is the learning management system that supports ECDC public health training activities. It provides access to e-learning, mixed courses and training materials, and facilitates the administration of face-to-face activities, including the ECDC Fellowship programme (EPIET, EUPHEM), MediPIET and continuous professional development activities designed, developed, and implemented with different ECDC teams and experts.
ECDC web portal	Supports an important part of the external communication, e.g. making available outputs for public health professionals, information for the public. The current Portal, supported on a modern content management system, was launched in June 2017.
ECDC Candidate Expert Directory	ECDC Candidate Expert Directory is a roster of potential external experts, allowing ECDC - when deemed necessary - to expand the number of experts and areas of knowledge and skills beyond its own expert staff and expertise.
European Surveillance Portal for Infectious Diseases	Online portal for European public health authorities and global partners to collect, analyse, share, and discuss infectious disease data for threat detection, monitoring, risk assessment and outbreak response. EpiPulse was launched in 2021 and integrates several surveillance systems that were previously independent (The European Surveillance System (TESSy), the five Epidemic Intelligence Information System (EPIS) platforms and the Threat Tracking Tool), providing new functionalities and seamless access to data in a single platform. The portal facilitates collection, analysis and dissemination of indicator- and event-based surveillance data on infectious diseases and associated health issues, including global epidemic intelligence, whole-genome sequencing, and health determinants.
European Federation Gateway Service	Component of the technical interoperability solution agreed by participating Member States in the eHealth Network to enable interoperability of approved mobile apps supporting contact tracing, as set out in the Commission Implementing Decision (EU) 2020/1023 of 15 July 2020 amending Implementing Decision (EU) 2019/1765 as regards the cross-border exchange of data between national contact tracing and warning mobile applications with regard to combatting the COVID-19 pandemic.
***Eurosurveillance* website**	Supports the submission, edition and publication of *Eurosurveillance*, a European journal on communicable diseases ranking among the top-10 journals in its field. A modern publication platform, with some interactive features was launched in September 2017.
Intranet	Tool for internal communication and support of internal processes.
Management Information System	Internal system used to plan and monitor the implementation of ECDC's annual work programme.

System/application	Description
Passenger Locator Form Exchange Platform	Enables the secure, timely and effective exchange of data between the EWRS competent authorities of the Member States, by enabling them to transmit information from their national digital passenger locator form systems to other EWRS competent authorities in an interoperable and automatic manner.
PHE Intranet (Emergency Operation Centre)	Internal crisis management tool where response activities and resources are gathered, managed and maintained.
Remote access to ECDC systems	Allows the continuity of work by ECDC staff when away from the Centre's premises (e.g. during missions and when on stand-by duty.)
SARMS	ECDC Scientific Advice Repository and Management System supports the production of ECDC outputs with scientific content from registration to clearance and dissemination using electronic workflows and provides a repository of ECDC scientific outputs for reference and auditing purposes.
Stakeholder Relationship Management (SRM) system	A primary business system of contacts, relationships (internal and external) and interactions with ECDC stakeholders. Supports the centralised management of Member States and other external contacts. The system is a user-friendly one-stop-shop with the potential for evolution to meet growing business needs.
Surveillance Atlas of Infectious Diseases	Launched in 2014, this tool provides a highly interactive, graphical access to surveillance data. It is accessible via ECDC's web portal. The Atlas has been evolving, in particular by increasing the number of diseases covered.
The European Surveillance System (TESSy)	Supports collection and validation of data for public health surveillance, provided by EU Member States and other associated countries. TESSy will be gradually integrated into EpiPulse (2021−2023).
Threat Reports Mobile App	Free and open-access mobile application that gives direct access to key updates and reports on communicable disease threats of concern to the EU on mobile devices.

6.2 Resource management

Throughout 2021, the Resource Management Services (RMS) Unit provided significant support for operational requirements, with high-quality delivery in the areas of Corporate Services, Finance and Accounting, Human Resources management and Legal Services and Procurement. The PHE had a profound impact on resource management services, as 46 additional posts and an increase of EUR 106 million in the Centre's budget were effectively accommodated in what is already a high-volume business. In addition to the operational support tasks, several notable projects were undertaken aimed at enhancing effectiveness and efficiency in future periods, including:

- Corporate Services: Workplace assessment finalised, EMAS implementation project commenced, and development of Corporate Services strategy started;
- Finance and Accounting: e-commitments launched in Speedwell, and an asset management framework being developed;
- Legal Services and Procurement: further e-workflows developed and deployed (procurement), as well as improved (electronic) Declaration of Interests.

Figure 20. Budget execution

BUDGET EXECUTION
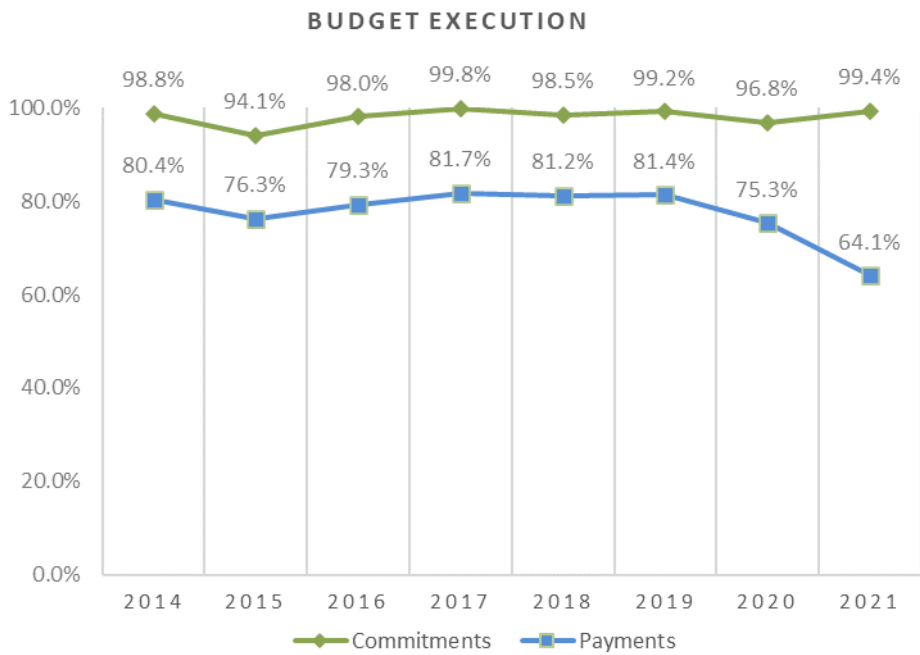
Figure 21. Work programme implementation

Work programme implementation
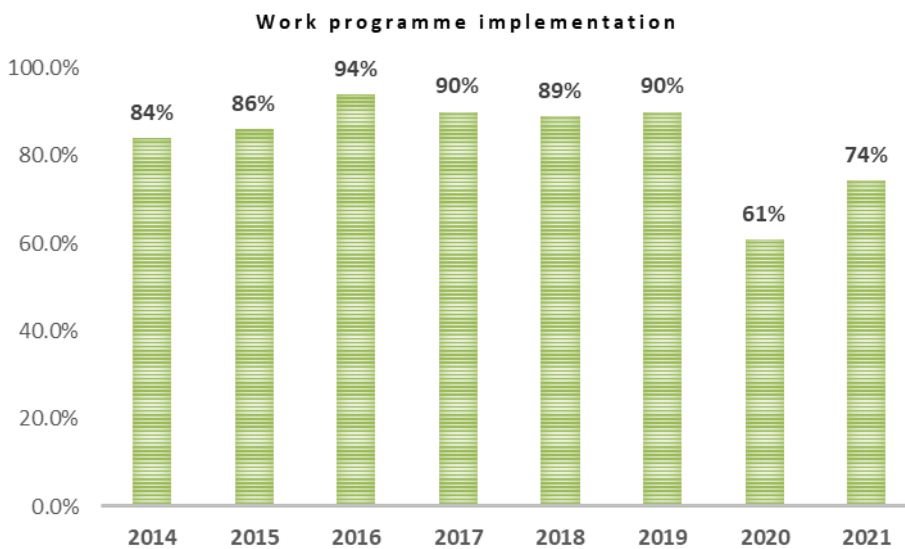
Support services. Performance indicators

Action Area	Objective	Performance indicator	Target	Verification	Result 2021
6.1	**ECDC supports public health by providing digital solutions for the Commission, Member States and other stakeholders. In addition, the Centre's operations are enabled with the necessary digital solutions for the steering and support of the Next Generation ECDC**	Business owners' satisfaction Implementation of the IT work programme according to plan (schedule, resources and scope) Quality of software products: Number of Critical and High severity defects for IT Products with high business impact (BIP = 1, 2)	57% (10% increase) Less than 20% deviation from the duration, resources, and scope of the initial baseline For IT products with BIP 1 or 2: 0 Critical and 0 High	Digital Transformation Services dashboard	● N/A (satisfaction survey postponed for 2023). ● Resource deviation: 7% Schedule deviation: 14% ● ● Critical defects: 0; High severity: 1
6.1	**ECDC provides its staff with a digital workplace that addresses the needs for mobility, flexibility, communication and collaboration. Users can easily access the IT services they need via the front-office or self-service.**	End-users' satisfaction surveys Proportion of ICT Front-Office requests and incidents resolved as per service level agreement	At least 78% Above 95% for requests and above 95% for incidents	Digital Transformation Services dashboard	● N/A (satisfaction survey postponed for 2023 due absence of IT QMO) ● ● Request fulfilment: 90% Incident resolution: 95%
6.1	**Prepare ECDC for the future through technology foresight and innovation**	Number of Feasibility Studies performed per year	at least 10	Digital Transformation Services dashboard	● Performed FS: 14
6.1	**ECDC continuously improves its digital infrastructure so that its critical systems fulfil business needs.**	Availability of hosted applications under service level agreement	99%	Digital Transformation Services Dashboard	● 99,9%
6.2	**Provide effective and efficient procurement services**	Percentage of procurement/grant procedures launched at planned launch date Percentage of changes made in the procurement plan throughout the year Percentage of procurement/grant procedures completed within indicative minimum procurement/grant timelines	80% <20% 85%	Management information system Minimum timelines published on ECDC intranet per type of procedure	● 157 out of 453 procedures were delayed for launch = 35%. This gives 65% launched on time. ● In the original procurement plan there were 368 expenses. In the final plan there were 453 expenses. This is a change of 23% ● N/A The data is not extractable with our current tools.
6.2	**Provide effective and efficient legal services**	Proportion of reviewed annual and specific declarations of interest for: - delegates to Governing Bodies; - invited experts and ECDC staff members before participation to meetings with scientific outputs; - invited experts and ECDC staff members before participation to Rapid Risk Assessments. Proportion of replies to requests to document access within the legal deadline.	100% for each category 100%	Report from the compliance officer Statistics from e-workflow (K2)	● Management Board members and alternates: 98% ● AF members and alternates: 95% ● RRA experts: 100% ● Experts to meetings: 97% ● ECDC senior management: 100% ● 100% of access to document requests dealt on time.

Action Area	Objective	Performance indicator	Target	Verification	Result 2021
6.2	**Provide effective and efficient corporate services**	EU Eco-Management and Audit Scheme (EMAS): all milestones implemented as per project plan	100%	Project plan	● 50%
		ECDC's greenhouse gas emissions (CO2)	TBC	Energy meters (electricity consumption), combined with consumption invoices	● tbc
		Percentage of meetings launched at planned launch date		Management Information System	● 92%
		Percentage of changes made in the meeting plan throughout the year	80%	Management Information System	● 17%
		Proportion of issues resolved as per service level agreement	<20% 90%	Ivanti system	● 99.6%
6.2	**Provide effective and efficient Financial Management services**	Percentage of budget committed (C1) and percentage of payments executed (C1) in the same year as the commitment	100% committed minimum 80% paid minimum	ABAC	● Commitment rate in 2021: 99.4%; and payment execution rate: 64.1%. The relatively low level of payments was primarily due to the European Health Emergency Preparedness and Response Authority Action Grants whose balances are planned to be paid in 2022.
		Percentage of invoices paid within the time limits of ECDC's Financial Regulation	95%		● 98% of invoices paid within the time limits.
		Rate of cancellation of payment appropriations	2%		● Cancellation of payment appropriations: 7.6%
		Rate of budgetary outturn	5%		● Rate of budgetary outturn: 1.03%

TBC – to be confirmed.

Part 2a. Management

Management Board

As in the previous year, all Management Board meetings were held virtually in 2021 due to the COVID-19 pandemic. An extraordinary Management Board meeting was held in May 2021 to discuss the European Health Emergency Preparedness and Response Authority Incubator Action Area 1 (Rapid detection of SARS-Cov-2 variants) and its impact on the ECDC work plan.

During the course of 2021, the Management Board approved Memoranda of Understanding between the ECDC and the Secretariat of Health of the United Mexican States, the Korea Disease Control and Prevention Agency, and the UK Health Security Agency respectively. The Board also endorsed the IAS Internal Audit Plan 2022-2024 and approved the ECDC Communication Policy 2022-2027.

In 2021, the Management Board approved the Consolidated Annual Activity Report 2020 and endorsed the Final Annual Accounts 2020 in accordance with legal obligations. The Board also approved the ECDC Single Programming Document 2022-2024 and the Budget and Establishment Table 2022. The draft ECDC Single Programming Document 2023–2025 was discussed and endorsed by the Board members.

No risks and control issues were brought to discussion to the Management Board in 2021.

Major developments

The main event impacting the work of ECDC in 2021 was the continuation of the COVID-19 pandemic. A large number of ECDC experts continued working in the PHE structures set in place in 2020. The implementation of some of the recommendations from the 'Strategic and performance review of ECDC response to COVID-19 pandemic' carried out in 2020 helped ECDC to further improve its processes related to public health events (PHE). In 2021 ECDC carried out the revision of its PHE plan, based on the lessons learned from the pandemic and international benchmarking. However, due to the quickly changing course of the pandemic, its implementation was postponed. Throughout the year, ECDC conducted epidemiological surveillance related to COVID-19, provided numerous rapid risk assessments, published scientific guidance to support public health decision-making, and responded to a large number of ad-hoc requests from the European Institutions, Member States, and other stakeholders. During this time, ECDC continued close collaboration with other CDCs, the World Health Organisation and different global partners.

In November 2020, the European Commission proposed the way towards a European Health Union to better protect the health of citizens, equip the EU and its Member States to better prevent and address future pandemics, and to improve resilience of health systems. In this context, the Commission proposed to strengthen ECDC's mandate and put forward a proposal for an amended ECDC Founding Regulation, together with two other pieces of legislation, namely a proposal for an amended Founding Regulation of the European Medicines Agency, and Regulation on Serious Cross Border Threats to Health. In 2021 the proposed amended ECDC Founding Regulation went through its normal legislative process in the Council and the Parliament, and as requested, ECDC provided its technical expertise to the EU Institutions in support of this process.

In 2021, the Commission continued to pursue the Health Union further by launching a new European Health Emergency Preparedness and Response Authority for health emergencies. In preparation of this structure, ECDC was requested to support EU Member States in setting up and/or expanding their WGS capacities and capabilities through grants. Setting up this ad-hoc grant programme and implementing it together with Member States represented a major cross-organisational effort, which will continue in 2022.

In 2021, the implementation of the ECDC Strategy 2021-2027 was slow due to the pandemic. Due to this, and to the additional tasks entrusted to ECDC in relation with the establishment of European Health Emergency Preparedness and Response Authority, the annual work plan was amended several times during the year together with the financing decisions, approved by the Management Board. The efforts to enhance the monitoring of the implementation of the annual work plan and related resources were initiated in 2021.

The COVID-19 pandemic increased ECDC's visibility in different media platforms and raised the Agency's institutional profile. Due also to the main developments described above, ECDC was represented in six informal or formal Health Council meetings, four hearings in the European Parliament, and five meetings with the Director of the WHO European Regional Office and other WHO entities in Europe.

Budgetary and financial management

Fund source C1 (current year appropriations)

Budget execution in terms of commitment appropriations at year-end reached 99.35%, equivalent to EUR 167 million.

Budget execution in terms of payment appropriations at year-end reached 64.08%, equivalent to EUR 107.7 million.

Information on transfers and amending budgets

The Director exercised her right to amend the budget within the limitations of Article 26.1 of ECDC's Financial Regulation and approved net budget transfers of EUR 8.6 million between several budget lines within the different titles to optimise the use of the budget.

Level of appropriations carried forward to the following financial year

ECDC carried forward the amount of EUR 59.3 million to 2022 (compared with EUR 13.5 million carried forward to 2021).

Implementation of appropriations carried forward from the previous financial year

Budget execution in terms of payment appropriations for the fund source C8 at year-end reached 92.41%, EUR 12 475 019 was paid from EUR 13 500 266 carried forward to 2021.

Interest charged by suppliers for late payments: EUR 488.

Procurement procedures

During 2021 a total of 257 contracts and grant agreements were concluded with ECDC as a part:

14 Direct Contracts with a total value of EUR 2 655 059.

21 ECDC Framework Contracts with a combined budget ceiling of EUR 115 379 030. These contracts were the result of 15 procurement procedures.

131 Specific Contracts (Signed Contracts under Framework Contracts) with a combined budget of EUR 21 823 372.

27 Framework Partnership Agreements (Grant Procedures)

24 Action Grants to National Public Health Authorities from EU and EEA Member States for enhancing Whole Genome Sequencing (WGS) and/or Reverse Transcription Polymerase Chain Reaction (RT-PCR) national infrastructures and capacities to respond to the COVID-19 pandemic in the European Union and European Economic Area. The Action Grants have a combined budget of EUR 77 087 704.

40 Specific Grant Agreements with a total value of the ECDC contribution amounting to EUR 2 003 729.

ECDC also joined 20 inter-institutional and inter agency contracts. These are contracts procured by other entities where ECDC may solicit under these contracts.

Summary information on budgetary operations for the year

The core budget of the Centre for 2021 (EUR 168.1 million) increased by 169% compared to 2020 (EUR 62.5 million). The Centre paid in 2021, an interest of EUR 488, charged by suppliers through late payments (>30 days).

For additional information see Annex VIII, Final annual accounts 2021.

Controls and control results

A short description of the controls and the control results can be found below regarding the internal control objectives mentioned in the ECDC Financial Regulation, article 30.2.

A number of control results are reported to the Director every year regarding ongoing and/or separate assessments to ascertain whether the components of internal control are present and functioning.

The following assessments are prepared, and made available to the Director, at least annually:

- Overall self-assessment of internal control in ECDC, including main deficiencies reported;
- Self-assessment of the implementation of the ECDC Internal Control Framework;
- Results of the specific assessment(s) performed;
- Analysis of exceptions reporting, including action plans on possible remedial actions;

- Status of internal control and quality weaknesses reported;
- Results of the ex-post controls for the grant verifications;
- Summary of the interactions with OLAF;
- Analysis of the audit observations/recommendations of the Internal Audit Service and of the European Court of Auditors to identify internal control deficiencies, including monitoring of ECDC's implementation of the corrective actions being implemented in a timely manner.

Legality and regularity of the underlying transactions

The ECDC budget is implemented through mainly four types of transactions: salaries and salary-related entitlements, reimbursements (to staff or external persons), procurement-related expenditure and grants.

The main objective of the controls in place regarding budgetary implementation in ECDC is to ensure compliance with the regulations ensuring the legality and regularity of the underlying transactions.

The main ex-ante controls to be performed are described mainly in the internal procedures (IP) in place. The most important being the IP on the Advisory Committee on Procurement, Contracts and Grants; the IP on Procurement and Contract Management; the IP on Grant Management, as well as the IPs on the Financial Workflows for Commitments and Payments (including the checklists for the ex-ante verifications to be performed).

In addition to the ex-ante controls performed, ex-post controls are performed for grants.

Ex-post verifications of grant agreements are performed every year by ECDC, in line with the ECDC Grant Verification Policy and the ECDC Grant Verification Plan. The verifications are performed by an external audit firm.

In 2020, two grants were selected for verification and the results of the verifications were concluded upon in 2021. In 2021, another two grants were selected, and the results of the verifications have been received. The final results are expected to be established in the first quarter of 2022.

The sample of verifications performed per year is not representative of the total population of grant agreements and not linked directly to the payments made for the year 2021. However, the result of the verifications does not indicate that the most likely average error regarding grant agreements in ECDC is above the materiality criteria of 2%.

Prevention, detection, correction and follow-up of fraud and irregularities

ECDC has an Anti-Fraud Strategy in place. The current Anti-Fraud Strategy covers 2021-2023 and was approved by the Management Board in November 2020. It is based on a fraud risk assessment and includes a number of activities, i.e. internal fraud training activities, performing an annual review and refining the fraud risk assessment over time, and selecting an area annually in which to further analyse and potentially improve the controls in place. The fraud risk assessment was updated in 2021 and the implementation of the action plan is monitored.

ECDC has an OLAF coordinator in place that is responsible for coordinating issues regarding fraud and irregularities and the contacts with OLAF. The OLAF coordinator reports to the Director at least once a year regarding the work performed and the status of fraud-related issues and investigations.

Safeguarding of assets and information

At the end of 2021, the total net value of the ECDC fixed assets was EUR 2.33 million. ECDC's assets are managed in the ABAC Assets IT tool. A physical inventory is performed at minimum every two years. The latest physical inventory for both IT equipment and furniture was performed in 2020. Overall, it is concluded that the most likely error for assets is below the materiality threshold, however, some improvements are being implemented by ECDC to the procedures in place.

Information at ECDC is safeguarded in the relevant IT systems, including the ECDC Document Management System. IT security is provided by the Digital Transformation Services Unit, which also has an IT Security Officer and IT Security Operation Specialist in place. In 2021, ECDC continued to be a subject of interest from cyber-criminals and hacktivists which materialised in different types of cyber-attacks towards ECDC infrastructure and IT services. In response, additional cyber-security measures were implemented to safeguard the information, e.g., Microsoft Defender (on-prem and in cloud), forensic tools for deep analysis, Information Security Management System (ISMS), privilege access/identity management (PAM/PIM).

Reliability of reporting

Financial reporting is provided by ECDC both internally and externally at regular intervals. Reports on budget implementation are provided monthly to the Director and Heads of Unit. External financial reporting is provided mainly through the annual accounts of the Centre and the annual report on budgetary and financial management, in accordance with the ECDC Financial Regulation. These external reports are audited by the European Court of Auditors and no material anomalies were noted for 2020.

Effectiveness, efficiency, and economy of operations

The effectiveness, efficiency and economy of operations is covered mainly by Part I of the Consolidated Annual Activity Report, but sound financial management is also an integral part of the ex-ante controls performed for the individual transactions authorised.

Costs and benefits of controls

The controls in place are designed to optimise their effectiveness and efficiency, by striking the right balance between the benefits of the controls regarding the legality and regularity of the underlying transactions, and the effectiveness and efficiency of the control taking into consideration the risks involved.

Regarding the effectiveness of the controls, the European Court of Auditors has given ECDC an unqualified opinion on the 2020 accounts and had no comments at all regarding the legality and regularity of the underlying transactions. No other indications were found that the controls in place were not effective.

Regarding the efficiency and economy of the controls, no serious anomalies were reported to indicate that the efficiency and economy were under question. However, in order to better measure the efficiency and economy of the controls, ECDC is working on introducing some more detailed indicators.

The estimated costs of control for ECDC in 2021 is included in the following table:

Table 7. **Estimated costs of control 2021**

Relevant Control System	Ex-Ante Controls			Ex-Post Controls			TOTAL		
Title	Estimated Costs of Control (€)	Funds Managed (€)	Ratio (%)	Estimated Costs of Control (€)	Amount Verified and/or Audited (€)	Ratio (%)	Estimated Costs of Control (€)	Funds Managed (€)	Ratio (%)
Salaries and other entitlements	312,400	32,080,685	0.97%	-	-	0.00%	312,400	32,080,685	0.97%
Reimbursements	58,860	146,756	40.11%	-	-	0.00%	58,860	146,756	40.11%
Procurements	2,713,076	39,853,214	6.81%	-	-	0.00%	2,713,076	39,853,214	6.81%
Grants	861,074	48,119,695	1.79%	17,545	208,875	8.40%	878,619	48,119,695	1.83%
TOTAL	3,945,410	120,200,349	3.28%	17,545	208,875	8.40%	3,962,955	120,200,349	3.30%

The table is split by relevant control systems, which are based on how ECDC implements the budget, and by ex-ante and ex-post controls.

The table and calculation method has been inspired by the approach used in the European Commission. The estimated costs of control include the estimated salary costs (including social charges) of the staff directly involved in the relevant control systems.

The staff included as staff directly involved are those working in the Resource Management Services Unit with accounting and financial management issues in the Finance and Accounting Section; the staff working with managing salaries in the Human Resources Section; the staff working with controls of reimbursements in mainly the Missions and Meetings Group in the Corporate Services Section; the staff working with procurements and grants in the Legal Services and Procurement Section; as well as the operational staff working directly with grants mainly in the Fellowship Programme Group in the Public Health Training Section and in the Microbiology and Molecular Surveillance Group in the Surveillance Section in the Public Health Functions Unit. In addition, an estimation has been made for the amount of time spent by the operational staff involved in the procurement related expenditure.

The estimated costs of control do not include any direct or indirect information technology costs, any staff costs for general control-related activities (e.g., planning, quality management, internal control coordination, anti-fraud related work) or any other overhead costs (e.g., costs for office space).

The costs of control are compared to the funds managed (defined as funds paid as C1 or C8 credits in 2021), which makes it possible to establish a ratio.

The ex-post costs of control include the staff costs for the coordination and monitoring of the grant verifications and the costs of the external audit firm performing the actual verifications.

ECDC will further refine the methodology used, and closely follow the development of the cost of controls and the ratios, over the coming years. The cost of controls and the ratios are difficult to compare to other organisations. However, they are indicators to be used over time to monitor the development of the efficiency of the controls in place.

As seen in the table, the ratio for the costs of ex-ante control for salaries and other entitlements is relatively low, due mainly to the rather large amount of total salary payments. The ratio is very similar to last year. The ratio for the costs of ex-ante control is a lot higher regarding reimbursements than for other types of transactions. Reimbursements are clearly more time consuming than other types of transactions, due to the rather large number of small individual payments made. The costs of control for reimbursements have gone down significantly in 2021 due to the reduction in meeting reimbursements, but the ratio remains similarly high as in 2020. The ratio for the costs of ex-ante control for procurements is closely linked to the number and types of procurements performed in the year in question. This year the costs of control are similar to those of 2020, but the total value of procurements has gone up significantly leading to a lower ratio (6.81% in 2021, as compared to 10.13% in 2020). Finally, the ratio for the costs of control for grants is highly impacted in 2021 by the fact that ECDC has managed a high amount of relatively large new grants for the European Health Emergency preparedness and Response Authority incubator programme. Due to this, the costs of control for grants have almost doubled in 2021, although the ratio has been reduced from 20.12% in 2020 to 1.83% in 2021.

Delegation and sub-delegation of the powers of budget implementation to agency's staff

The Director of ECDC, as authorising officer (AO), has delegated financial responsibility to the five Heads of Unit, as authorising officers by delegation (AOD).

The Heads of Unit in turn delegate responsibility – but only in their absence – to the Deputy Heads of Unit (Authorising Officers by Sub-Delegation (AOSD)).

Should the Deputy Head of Unit be unavailable, the authority returns to the Director. Thereby, a very limited number of persons act as authorising officers in ECDC.

The authorising officers by delegation can enter into budgetary and legal commitments and authorise payments. During the first part of the year, all commitments above EUR 250 000 required the signature of the Director. Since the second half of July 2021, the threshold has been changed to EUR 500 000 for budgetary and legal commitments and unlimited for the authorisation of payments.

For the expenditure of 2021, the AODs signed a Declaration of Assurance to the AO for the area for which they were delegated responsibility. No reservations were raised by the AODs.

Human resources management

Human Resources management aims at supporting the Centre's management and staff by providing continuous HR services in areas such as recruitment, working conditions, pay and entitlements, learning and development, and staff health and well-being. The objective of the Centre's learning and development activities is to offer professional growth for the individual and maintain and further strengthen the Centre's organisational performance.

As part of the review of the ECDC mandate, the Centre received an additional 73 posts (both Temporary Agents and Contract Agents) in the beginning of 2021 for the years 2021 – 2024, of which 31 posts were allocated for 2021. Considering the impact of the large European Health Emergency Preparedness and Response Authority grant that ECDC received in spring 2021, ECDC obtained the approval to recruit an additional 15 posts initially foreseen for 2022, already in 2021. Hence the total number of additional posts in 2021 amounted to 46. As a consequence of the new posts allocated to the Centre, the 20 short term Contract Agent posts assigned to ECDC in 2020 are expected to be phased out by 2023. Additionally, the Centre received 21 Contract Agent posts for externally funded projects for which the recruitments started in 2020 and continued in 2021.

Moreover, during this growth phase and in combination with the workload due to the pandemic, HR reinforced the organisation with short term staffing (interims). Other HR activities continued to focus on supporting staff with regards to the extraordinary situation (e.g. adjusted modalities linked to teleworking and time management) as well as continued support in the area of staff wellbeing, with stress prevention activities, extended support of in-house doctor's phone consultation and ergonomic sessions. The learning and development activities continued to be offered online, and support was provided to managers and teams in view of the new ways of working. A project on Respect at the workplace was also launched with a survey carried out in autumn 2021 and an action plan to be developed in 2022.

The majority of the Centre's jobs (78.4%) are related to the implementation of activities linked to the Centre's operational work. 14.5% of the jobs belong to 'administrative support and coordination', while 7.1% of the jobs are defined as neutral (i.e., primarily in the area of finance/accounting and internal control) (see Annex IV, Establishment plan and additional information on Human Resources management).

Strategy for efficiency gains

In 2021, ECDC continued its efforts towards delivering efficiency gains. The Integrated Management Framework (IMF) Working Group was established to support, among other tasks, the preparation of the implementation roadmap for the IMF. This roadmap will be finalised in the beginning of 2022. The introduction of new methodologies, including the automation of support and operational processes as critical aspects to reach and sustain further efficiency gains, continued in 2021. In 2021 five new administrative processes were automated through electronic workflows and four of these were to automate all internal procurement preparation steps. A feasibility study was undertaken to find a more sustainable and cost-effective solution for the platform for electronic workflows. An overall analysis of the use of the electronic workflows already shows a significant adoption by users and a clear reduction of process time, due to the elimination of unnecessary steps or waits, while ensuring legal compliance. ECDC is also engaged in a number of joint procurements with other EU agencies and is using shared IT services (such as the disaster recovery centre of EUIPO).

As mentioned in this document, ECDC is also implementing a number of operational programmes and actions, such as the re-engineering of its surveillance systems, or the implementation of an automated tool for early detection of public health threats, for increased efficiency.

Assessment of audit and ex-post evaluation results during the reporting year

Internal Audit Service (IAS)

ECDC is audited by its internal auditor, the Internal Audit Service of the European Commission (IAS). The audit work is defined in the risk-based IAS strategic internal audit plan. A new plan was developed by the IAS in 2021, which covers the period 2022-2024.

All observations and recommendations are taken into account and appropriate action plans are developed. The implementation of these actions is regularly followed up and presented to the Audit Committee of the Management Board.

In 2021, the IAS performed a limited review on the implementation of the new internal control framework in ECDC. The audit made four recommendations, all classified as important. An action plan was developed by ECDC, and its implementation will be carefully monitored by ECDC and the Audit Committee and reported upon to the IAS.

Internal Audit Capability (IAC)

Not applicable.

European Court of Auditors (ECA)

The ECDC annual accounts are audited by the European Court of Auditors (ECA). The audit provides a Statement of Assurance as to the reliability of the accounts of the Centre and the legality and regularity of the underlying transactions.

ECDC received an unqualified opinion for 2020, indicating that the accounts are reliable and the transactions underlying the accounts are legal and regular. The ECA made no other comments in its final report for 2020 for the second year in a row.

The ECA audit of the 2021 annual accounts is ongoing. The first part of the audit was performed in November 2021. The audit will be finalised during spring 2022, and a draft report will be available by June 2022.

Follow-up of recommendations and observations

Follow-up of recommendations and action plans for audits and evaluations

Audits

At the end of January 2021, all IAS recommendations had been implemented by ECDC and reported to the IAS for review. The IAS review performed in 2021 confirmed that they could be formally closed. In 2021, ECDC agreed the action plans for the four recommendations from the audit on human resource management and ethics and the four recommendations from the limited review on the implementation of the new internal control framework. The target dates for those eight recommendations were set as: six to be implemented by Q4 2021, one by Q1 2022 and one by Q2 2022. The six recommendations with target dates to be implemented by Q4 2021 have been partly implemented, but none of them has been fully implemented yet. ECDC will carefully be following up to ensure that they are fully implemented as soon as possible.

The outstanding issue with the ECA was regarding two payments for meeting events, where the auditors found weaknesses in the structure and documentation of checks and reconciliations on order forms, deliverables and invoices and recommended that the Centre should strengthen these aspects of its control system, in particular with respect to large and complex meeting events. This has been resolved by ECDC, and closed by the ECA, in 2021. Thereby, there are no open issues regarding the ECA.

Evaluations

In an effort to continuously improve its performance, the Centre commissioned an external assessment of its response to the COVID-19 pandemic for the period January - September 2020. This analysis grounded its conclusions and recommendations on desk research, a comprehensive stakeholder consultation, and a benchmarking and learning exchange with other similar organisations. The aim was to obtain a good evidence base to propose practical recommendations related to the support ECDC provides to Member States and the European Commission, the collaboration with key partners and the internal organisation of the COVID-19 operations. The report resulted in 17 recommendations. During 2021, the Centre incorporated a series of improvements in its response to COVID-19 addressing the ten prioritised recommendations of this report. Comprehensive information on the way ECDC addresses each prioritised recommendation is provided in Part II (b). External evaluations, of this document.

Follow-up of recommendations issued following investigations by the European Anti-Fraud Office[1]

As ECDC did not have any open European Anti-Fraud Office (OLAF) recommendations from previous years or receive any new ones in 2021, no follow-up of actions was required or taken in this regard. No reports impacting the accounts were received in 2021.

Follow-up of observations from the discharge authority

Article 110 (2) of the ECDC Financial Regulation states: 'At the request of the European Parliament or the Council, the director shall report on the measures taken in the light of those observations and comments'.

This report provides an overview of the measures taken by the European Centre for Disease Prevention and Control (ECDC) in the light of observations and comments made by the Discharge Authority on 28 April 2021 in respect of the implementation of the budget of the Centre for the financial year 2019.

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[1] Article 11 Regulation (EU/Euratom) 883/2013 of the European Parliament and of the Council concerning investigations conducted by the European Anti-Fraud Office (OLAF)

Table 8. European Parliament's observations and measures taken by ECDC

Reference	Observation of the Discharge Authority	Response and measures taken by ECDC	Status/Reference
Performance			
P9_TA(2021)0187 paragraph 3	Observes that the Centre describes the status as 'ongoing' in relation to the discharge authority's recommendation from last year on the Centre's role in developing tools for the **digitalisation of healthcare in the Union**, in particular in the context of tackling a pandemic; **calls on the Centre to inform the discharge authority in a timely manner on the action plan's status, especially in the context of the current pandemic and mitigation of its negative effects;**	ECDC is currently carrying out digital surveillance of severe respiratory infections using data from electronic health records in seven EU Member States. In 2022 this will be extended to additional countries and diseases. Furthermore, in 2021 ECDC operationalised the automatic monitoring of social media for the rapid detection and assessment of threats. This tool will be further enhanced in scope and automation during 2022. An entirely new European Surveillance System is being developed, and it will start hosting COVID-19 data in the fall of 2021. In 2022 it will progressively cover all other diseases and health conditions under EU/EEA surveillance. The new system adopts new technologies and ensures automation of data validation and analysis, thus reducing the reporting burden for Member States. In 2021, ECDC launched a new surveillance portal called EpiPulse, through which the Centre allows its stakeholders to rapidly exchange data and information on ongoing disease trends and events. Several technology assessment projects are ongoing to ensure that the Centre takes advantage of technical innovations in the most cost-effective manner. During 2020 and 2021, through automation of web-searching, the Centre was able to retrieve and disseminate COVID-19 epidemiological data worldwide. Furthermore, ECDC will represent a node in the EHDS. For this purpose, ECDC prepared a pilot study so assess the feasibility of using the EHDS to monitor antimicrobial resistance.	**Ongoing** **Implemented** **Ongoing** **Implemented** **Ongoing** **Implemented**
P9_TA(2021)0187 paragraph 5	Notes that an external evaluation for the period 2013-2017 was concluded in 2018-2019 and the recommendations from the evaluation were adopted in 2020; welcomes the fact that the evaluation concluded that the Centre successfully provided support in the Union and national policy priority areas and demonstrated the capacity to successfully adapt to policy developments; notes with satisfaction that the Centre was positively evaluated regarding the coherence of its actions and coordination with other relevant bodies; **calls on the Centre to report to the discharge authority on the status of the development of an action plan for the implementation of the recommendations stemming from the evaluation;** is, however, of the opinion that the evaluation of the Centre's work should be done by the Commission instead of by the Centre's management board;	ECDC action plan to implement the recommendation of the third external evaluation was presented to the ECDC Management Board (Management Board) in March 2021. ECDC Management Board approved the proposed actions and their timing. ECDC Management Board will be informed regularly on the implementation of this plan.	**Plan developed and approved by the ECDC Management Board Implementation ongoing**

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Reference	Observation of the Discharge Authority	Response and measures taken by ECDC	Status/Reference
Staff Policy			
P9_TA(2021)0187 paragraph 13	**Is concerned about the large number of members on the Centre's management board,** which makes decision making difficult and generates considerable administrative costs;	The composition of the ECDC Management Board is defined in the ECDC Founding Regulation, and members are representing EU Member States, European Commission, and European Parliament. The Management Board has approved its updated Rules of Procedure in 2018, and these further define the procedures for the Management Board decision making.	
Sustainability			
P9_TA(2021)0187 paragraph 16	**Regrets that the Centre has not set CO2 reduction targets;** welcomes, however, the efforts made by the Centre to create an environment-friendly workplace and all the measures taken by the Centre to reduce its carbon footprint and its energy consumption, and to develop a paperless workflow;	ECDC is currently in the implementation phase of its Environmental Management System based on EMAS, which will include CO_2 reduction targets.	**Ongoing**
Procurement			
P9_TA(2021)0187 paragraph 18	Notes that two out of three observations of the Court have been implemented, one regarding ex-ante controls performed as regards the IT framework contract and one regarding conference and multimedia equipment service contracts; **calls on the Centre to report on the status of the actions taken to respond to the third observation, namely regarding the structure and documentation of checks and reconciliations as regards order forms, deliverables and invoices;**	ECDC developed a set of internal documents to ensure efficient meeting documentation processing in two key areas: meeting organisation and reimbursements. The internal guidelines are live documents and are periodically reviewed based on the need to address new emerging issues or process changes. The structure of the meetings folders has also been reviewed and improved to allow more efficient retrieving of meeting documents. Based on the action taken, the ECA closed the observation in the ECDC 2020 annual report received in May 2021	**Implemented**
Prevention and management of conflicts of interest, and transparency			
P9_TA(2021)0187 paragraph 19	**Notes with concern the absence of some declarations of interest and CVs of the management board and of the advisory forum; calls on the Centre to publish the declarations of interest and the CVs of all the members of the management board and of the advisory forum and to report to the discharge authority on the measures taken in this regard;** notes that the Centre has adopted an independence policy that routinely requires the collection and inspection of declarations of interests by its senior management team, key staff members and external experts who participate in the Centre's scientific activities;	In comparison to previous years, the submission rates continue to improve. In early 2020, ECDC adopted further measures to increase the submission rate, which were 95% for the Management Board and 93% for the AF in 2020. Since the beginning of 2020, members / alternates of the Management Board and AF are not able to access the meeting documents in the extranet before they submit their Annual DoI. Should there be a need to implement further measures that would mean that in the case of non-compliance the Management Board and AF members/alternates/observers would not be able to attend the meetings in 2022.	**Ongoing**
P9_TA(2021)0187 paragraph 20	Notes that the Centre registered and closed one whistleblowing case in 2019 and that the appropriate measures have been put in place, and notes that, as a result, a written reminder was issued to members of staff about their duties under the Staff Regulations; notes that 29 relevant potential conflicts of interest were identified and further investigated in 2019, and that mitigation measures were applied in relation to 21 of those conflicts of interest; notes that the Centre has registered meetings with lobbyists and that they are made public upon request; **stresses that the Centre must further improve its ethics framework by adopting whistleblower protection measures;**	In 2020, the IAS performed an audit on Human Resource Management and Ethics in ECDC in accordance with the strategic internal audit plan. The final report was received in January 2021. The audit made four recommendations, two of them were classified as very important and two as important. An action plan was developed by ECDC, and its implementation will be carefully monitored by ECDC and the Audit Committee and reported upon to the IAS. Following the IAS audit, ECDC is in the process of creating a function of "Ethics Officer", that will promote and advocate the highest level of ethical standards within the agency, including organising training and awareness-raising in this area.	**Ongoing**

Reference	Observation of the Discharge Authority	Response and measures taken by ECDC	Status/Reference
P9_TA(2021)0187 paragraph 21	Underlines the fact that the current ethical framework applying to Union institutions and agencies suffers from considerable drawbacks due to its fragmentation and the lack of consistency between existing provisions; **highlights that these issues should be addressed by setting up a common ethical framework**, ensuring the application of high ethical standards for all Union institutions and agencies;	In 2020, the IAS performed an audit on Human Resource Management and Ethics in ECDC in accordance with the strategic internal audit plan. The final report was received in January 2021. The audit made four recommendations, two of them were classified as very important and two as important. An action plan was developed by ECDC, and its implementation will be carefully monitored by ECDC and the Audit Committee and reported upon to the IAS. Following the IAS audit, ECDC is in the process of creating a function of "Ethics Officer" that will promote and advocate the highest level of ethical standards within the agency, including organising training and awareness-raising in this area.	**Ongoing**
P9_TA(2021)0187 paragraph 22	Underlines that certain officials fill in declarations of absence of conflicts of interest and provide self-assessments with regard to respect for ethical standards; **highlights, however, that such self-declarations and self-assessments are not sufficient and that additional scrutiny is therefore needed;**	ECDC has developed and is in the process of implementing its Internal Procedure on Conflict of Interest for Staff. This will provide an opportunity to further develop processes to facilitate additional scrutiny, for example, ex post checks are envisaged. The Compliance Officer function, Legal Services and Procurement Section and Human Resources Section shall collaborate on developing this issue.	**Ongoing**
Internal controls			
P9_TA(2021)0187 paragraph 23	Notes that the Centre's current audit plan covers the 2018 to 2020 period; notes that all previous observations and recommendations have been taken into account and appropriate action plans have been developed; notes that, following the 2019 audit of the Internal Audit Service on 'Preparedness and Response in the ECDC', five recommendations were issued, two classified as very important and three as important, of which one very important and one important recommendation have already been implemented; **calls on the Centre to report to the discharge authority on the status of the remaining recommendations;**	ECDC has implemented all the recommendations from the IAS audit on "Preparedness and Response in the ECDC" and submitted them to the IAS for review. The IAS has reviewed the implementation and ECDC is currently awaiting the final conclusions.	**Ongoing[1]**
Other comments			
P9_TA(2021)0187 paragraph 26	Welcomes the fact that the Centre has developed a comprehensive strategy aimed at achieving cost-effectiveness and at environmental protection; **calls on the Centre to pay due attention to the energy mix of its sources of electricity and encourages the Centre to procure electricity generated by renewable energy;**	100% of the ECDC electricity is provided by hydro powered energy. ECDC has been operating in its new premises since March 2018. The premises have been environmentally certified as a "Green building" since 2008. The ECDC building has received in 2020 the environmental certification 'BREEAM Very Good in use'. Building Research Establishment Environmental Assessment Method (BREEAM) is the world's leading sustainability assessment method for master planning projects, infrastructure, and buildings.	**Implemented**
P9_TA(2021)0187 paragraph 27	Welcomes the Centre's new measures on the dissemination of the results of its research to the public, and to reach out to the public via the social media and other media outlets; welcomes the website changes for the various stakeholders; **notes that the Centre does not have a specific cyber-security policy**, but does have several security policies in place which include a policy on cyber-security	Cyber-security is already extensively covered in the current ECDC information security policy (ECDC/IP/63 Information Security Policy) and IT security rules. Still, a new and updated ECDC cyber-security policy is currently under preparation in anticipation of the EU Regulation on common Cybersecurity rule which is expected to be adopted before end of 2021.	**Ongoing**

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[1] At the time of preparing this report, the IAS has formally closed all the recommendations, therefore the status of the observation is Implemented

Reference	Observation of the Discharge Authority	Response and measures taken by ECDC	Status/Reference
64		As part of its effort to strengthen cyber-security, ECDC is furthermore considering investment in an information security project and a cyber-security awareness and training program from 2022 onwards.	

Environment management

ECDC is implementing an Environmental Management System based on EMASand is subsequently working on achieving EMAS certification. In addition, the ECDC premises have been environmentally certified as a 'Green building' since 2018. In December 2020, the ECDC building received the environmental certification 'BREEAM Very Good'.

Assessment by management

2021 was the second consecutive year ECDC worked under circumstances we have never faced before in this magnitude, and thus, many experts were diverted from their core tasks. ECDC changed its annual work plan several times over the year to accommodate tasks needed for COVID-19 response. Despite this, the Agency was able to deliver most of its prioritised core activities. ECDC has tried to implement the lessons learned of this experience while working in the response mode, and this learning will continue after the pandemic.

ECDC conducts its operations in compliance with relevant legal requirements in an open manner to maintain its scientific independence and to reach high professional standards. The Agency regularly monitors the implementation of the action plans based on ECA and IAS audit recommendations. In 2021 ECDC closed all the audit recommendations from previous years, and the review carried out on the ECDC Internal Control Framework did not raise any significant deficiencies.

Part 2b. External evaluations

ECDC's Founding Regulation requires the Centre to organise external evaluations every five years to assess how it performs its mission. The third Independent External Evaluation of ECDC, conducted by Price Waterhouse Cooper, was concluded in 2018–2019. The report looked at the period 2013–2017. The evaluation provides insights into the progress made since the previous evaluation and points out areas for further improvements. The evaluation concluded that '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'. ECDC's coherence and coordination with other relevant bodies was also evaluated positively.

In response to the evaluation, the Management Board adopted a set of recommendations in its March 2020 meeting. Based on the recommendations of the Board, ECDC developed an action plan for the implementation of actions and presented a progress update to the Management Board in March 2021. Another update will be presented to the Management Board in March 2022.

During the first phase of the COVID-19 pandemic, the Centre contracted externally a 'strategic and performance analysis of ECDC response to COVID-19 pandemic' which resulted in 17 recommendations. During 2021, the Centre incorporated a series of improvements in its response to COVID-19 addressing the ten prioritised recommendations of this report. The improvements are related to the adjustments in the governance and the structure of the response team, the use of criteria for prioritisation of requests, improved key messages and summary of our outputs, strengthening the role of the strategic analyst to ensure a more forward-looking approach in the management of the pandemic, a revised PHE Plan using the good practices and lessons learnt from other international actors and defining core outputs to ensure easier deployment of resources.

A short progress update on the implementation of the summarised Management Board recommendations is presented below. The full text of the recommendations of the third external evaluation and the recommendations of the Management Board are available on the ECDC website[1]:

Management Board Recommendation 1: _The Management Board suggests that gaps identified in Member States public health systems should be shared with the Member State and the European Commission to support Member States in the most appropriate way._

ECDC should develop country knowledge to advise the European Commission on priorities for national capacity strengthening and measures which could be supported by EU instruments described above, including surveillance, preparedness, training, and control of CDs.

ECDC has been working intensively in 2021 to put in place the foundations of a solid targeted country support approach and to execute the first country missions. The Steering committee on Targeted Country Support developed an internal procedure for ECDC country missions, which was used in the organisation of missions to three Member States in the end of 2021. ECDC also organised several consultations on the content and visualisation tools to be used in the compilation and presentation of data. This work will continue in 2022, developing a methodology to analyse vulnerabilities, needs and strengths. More information on the actions implemented is available in Part I. Policy Achievements, Strategic Objective 2, of this report.

Recommendation 2: ECDC's mandate under Decision 1082/2013/EU

2A. The Management Board recommends that the European Commission and ECDC examine how the allocation of preparedness tasks between these different stakeholders could be more clearly communicated and described, in particular, in relation to the terms of reference of HSC Working groups, expected deliverables and their timeline, as well as the processes for their validation.

The European Commission and ECDC should prepare information packages for ECDC stakeholders as well as HSC members to clarify roles and responsibilities in the area of preparedness.

Preparedness is an important element in strengthening the ECDC mandate. Preparedness-related tasks and outputs are clearly defined (_Art. 5b_). Once the ECDC mandate and the new regulation on serious cross-border health threats are adopted, the Centre will develop specific information packages on the role of the European Commission, the HSC and ECDC for key stakeholders.

2B. The Management Board invites ECDC to install a systematic feedback system on the use and relevance of rapid risk assessments (RRAs). The Management Board endorses the further involvement of the CCBs in the preparation of RRAs, as this can be expected to increase the relevance of the assessments, stakeholders' buy-in to their results and follow-up.

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[1] Available from https://www.ecdc.europa.eu/en/publications-data/third-external-evaluation-ecdc-2013-2017

Following this recommendation, the Centre has been involving the Advisory Forum and relevant networks in the preparation of RRAs since February 2021. Moreover, ECDC will request input from Member States in the preparatory phase of RRAs to ensure that all aspects on which our stakeholders need advice are considered.

Recommendation 3: ECDC's international activities

The Management Board calls upon the European Commission to develop a substantiated process to ensure a long-term and structural agreement on the use of ECDC resources in support of external requests.

The Management Board is committed to taking a stronger role in evaluation, monitoring and validation of ECDC's international activities to ensure that the strategic priorities are met.

The European Commission's legal proposal to strengthen the ECDC mandate expands its international dimension. Currently, three actions funded by the European Commission (Directorate-General for Neighbourhood and Enlargement Negotiations and the Directorate-General for International Partnerships) are being implemented by ECDC: 'Preparatory measures for the participation of the Western Balkans and Turkey in the ECDC with special focus on One-Health against AMR and enhanced SARI surveillance, 2020 – 2024', 'EU Initiative on Health Security' and 'EU for Health Security in Africa: ECDC for Africa CDC'. In 2021, ECDC almost completed the recruitments for all three projects. A discussion on the long-term sustainability aspects for the continuation of these projects and collaboration with third countries is planned to take place during the final year of these projects.

Recommendation 4: Collection, validation, analysis, and dissemination of data

4A. The Management Board agrees that it would be important for ECDC to better understand the root causes for the low reporting, to be able to provide the right type of support to Member States. ECDC should, therefore, take action to gather the information on the matter from the Member States.

Surveillance systems descriptors have been defined and will now be used to develop surveillance standards. In 2021, ECDC worked on surveillance standards for pandemic prone diseases. The work is still ongoing, but part of it has been published as part of the COVID-19 surveillance guidance (October 2021).

ECDC is planning the evaluation of surveillance systems as part of the implementation of the new mandate (priority diseases and timing to be agreed with Member States). From 2022, special focus will be given to implementing and evaluating surveillance systems based on the direct use of electronic health information.

4B. Concerning the involvement of Member States experts in the analysis of TESSy data and other ECDC outputs, the Management Board view was that Member State involvement is beneficial, especially on products that add greatest value, while being careful with aspects such as conflict of interest.

In 2021, the main surveillance effort was on COVID-19. Member States have been involved extensively through regular calls with the COVID-19 surveillance network, including on improving data quality, and the interpretation of surveillance findings.

Recommendation 5: Awareness and utility of ECDC's outputs

The Management Board stated that raising awareness and communication to national audiences is the primary responsibility of Member States. A key for success for ECDC is to continue providing Member States with evidence-based and objective information.

The Management Board considers that reaching out to media stakeholders can be most effective and successful in the context of existing global public health campaigns such as European Antibiotic Awareness Day (and WAAW), European Immunisation Week, TB day, AIDS Day. As far as RRAs are concerned, they are promoted at the HSC to facilitate the coordination of measures between Member States.

The Management Board invites ECDC to present an analysis of its Communication strategy and adapt it, and supports the monitoring of communication activities.

Recommendation 7A. Recommendation related to translation of certain documents published on the ECDC website in different languages 'to make ECDC and its contribution to communicable disease prevention and control in Europe more visible to the general public and known as an objective and reliable source of information'.

The latest ECDC Communication Policy was developed and approved by the Management Board in 2021. This policy defines the actions for the period 2022-2027 and the Centre's target audiences, stakeholders, as well as internal and external priorities. It also reflects the needs and media use of its target audiences and stakeholders, as well as the current trends and innovations in e.g., risk communication, crisis communication, and behavioural/social science research, amongst others.

Throughout 2021, ECDC supported overall COVID-19 communication activities and delivered several awareness days such as World Tuberculosis Day, World Hepatitis Day, World Hepatitis Day, World Hand Hygiene Day, World Field Epidemiology Day, Flu Awareness Week, European Immunisation Week, World AIDS Day, and European Antibiotic Awareness Day, with a variety of communication actions, some of which were translated and shared with partners and stakeholders across the EU.

Recommendation 6: Coordination and complementarity

6A. The Management Board recommends that, under the MoU between ECDC/WHO Euro, areas for improvements are addressed by the Joint Coordination Group and reported back to the Management Board.

6B. The Management Board recommends that the ECDC should be fully involved in both the planning and implementation of all Joint Actions that impact on, or could benefit from, the Centre's activities to ensure they are more efficient. ECDC should be invited systematically by the European Commission to participate in the planning stage of the Joint Actions and integrate them into its planning process.

ECDC continued its active collaboration with WHO, defining a list of actions annually, most of which were successfully implemented in 2021 despite the high workload related to the pandemic (85% implementation rate). More information is available in Part I. Policy Achievements, Strategic Objective 4, of this report.

Dialogue was maintained with the Directorate-General for Research and Innovation/the Directorate-General for Health and Food Safety on future research actions and ECDC role in 2021, including in the context of the discussion on revisions to the ECDC mandate and the legislative proposals for revision to cross border health threats and the establishment of the European Health Emergency preparedness and Response Authority.

Recommendation 7: Implementation of the Common Approach on EU Decentralised Agencies and its Roadmap

(7A covered with recommendation 5)

7B. Recommendation to provide more systematic feedback to the Management Board on the Advisory Forum's meetings and its annual report, and to communicate earlier the budget and human resources allocated to the activities (e.g., prioritisation, planned projects and highlight of new activities).

The planned discussion on the type of systematic feedback requested by the Management Board (e.g. information on new projects, KPIs) will take place in 2022 with a concrete proposal on broadening the scope of the Management Board Audit Committee.

The Centre already presents its Single Programming Documents twice to the Management Board: in November year N-2 (draft SPD) and in November N-1 (final SPD), and will incorporate highlights of the new activities from now on.

Recommendation 8: Efficiency

Several specific recommendations were made to improve the efficiency of ECDC in terms of its organisation and process. They covered the cooperation between the Management Board and Advisory Forum, the systematic review and reporting ensuring prioritisation mechanisms are put in place, the effort to use more outcome-level indicators and ensuring strong follow-up of recommendations resulting from evaluations.

The Centre is continuing the efforts to ensure enhanced collaboration between the Management Board and the AF. As per 2022 the Chief Scientist will share it annual report not only with the AF but also with the Management Board.

As part of its IceCube programme, a feasibility study to identify options for a new planning and monitoring tool was finalised in 2021, and two tools are currently piloted. In 2021 the Centre automated five additional processes with K2, thus reaching a total of 15 automated processes and prepared an implementation plan for the Integrated Management Framework of the Centre.

The Centre started the measurement of its strategic key performance indicators, reviewed its procedure for evaluation and strengthened the mechanism for implementation of recommendations, as demonstrated with the full implementation of the actions resulting from the 'Strategic and performance analysis of ECDC response to COVID-19 pandemic'.

Part 3. Assessment of the effectiveness of the internal control systems

Effectiveness of internal control systems

Methodology applied for the assessment of effectiveness of the internal control system

ECDC assesses the effectiveness of the internal control system at least annually by assessing the implementation of the internal control framework, including the implementation of the indicators defined, and by assessing the main deficiencies noticed by ECDC itself or reported by others, including the Internal Audit Service and the European Court of Auditors.

Internal control framework

The Management Board adopted the new internal control framework at its 43rd meeting in November 2018. Starting in 2019, the internal control framework forms the basis for ECDC's internal control system.

ECDC's internal control framework is designed to provide reasonable assurance regarding the achievement of the five objectives set in Article 30 of the ECDC Financial Regulation:

- effectiveness, efficiency and economy of operations;
- reliability of reporting;
- safeguarding of assets and information;
- prevention, detection, correction and follow-up of fraud and irregularities;
- adequate management of the risks relating to the legality and regularity of the underlying transactions, taking into account the multiannual character of programmes as well as the nature of the payments concerned.

The framework supplements the ECDC Financial Regulation and other applicable rules and regulations, with a view to align ECDC standards with the highest international standards. The framework implemented by the European Commission served as a basis for defining principles and their characteristics.

The internal control system at ECDC is based on the five internal control components:

- the control environment
- risk assessment
- control activities
- information and communication
- monitoring activities.

These are the building blocks that underpin the framework's structure and support the Agency in its efforts to achieve its objectives. The five components are interrelated and must be present and effective at all levels of the organisation for internal control over operations to be considered effective.

Each component of the internal control system adheres to several principles which facilitate the system's implementation and make it possible to assess the system's operability at the management level. Working with these principles helps provide reasonable assurance that the organisational objectives are met. The principles specify the actions required for internal control to be effective.

The internal control framework moves away from a purely compliance-based to a principle-based system, whereby the managers are offered the necessary flexibility to adapt to specific situations, characteristics and circumstances while ensuring robust internal control and consistent assessment throughout the Agency. This approach aims at helping the organisation to achieve its objectives and sustain operational and financial performance by establishing diverse and objective-based managerial processes that meet each entity's specific needs.

Ongoing monitoring of the effective functioning of internal control is built into business processes and performed on a real-time basis at all levels of the organisation. This enables the entities to react timely to changing conditions and correct deviations from intended performance and effectiveness levels.

The Agency must be able to demonstrate not only that controls are in place but also that these controls are effective in controlling risks and that they work as intended. Internal control principle 16 states that the assessment of internal control is founded both on ongoing (continuous) monitoring and on specific (periodical) assessments to ascertain whether the internal control systems and their components are present and functioning. ECDC must carry out an overall assessment of the presence and functioning of all internal control components at least once a year.

In 2019 the internal control framework was further reinforced with detailed indicators that were approved by the Management Board in November 2019, with a revision of the indicators performed in June 2020 as agreed with the Board.

The implementation of the internal control framework is assessed annually and reported to the Audit Committee of the Management Board. The assessment of the internal control framework for 2021 was performed in January–February 2022 and is presented to the Audit Committee in March 2022.

The main conclusions were as follows:

- The self-assessment performed regarding the implementation of the internal control framework showed that the internal control system is present and functioning, but some improvements are needed.
- On the component level, one component (Monitoring Activities) is in place and functioning well, with no or only minor improvements needed, and four components are present and functioning, but with some improvements needed.
- On the principles level, nine principles are in place and functioning well with no or only minor improvements needed, while eight principles are present and functioning, but with some improvements needed.
- Overall, 37 characteristics were rated as 'the characteristic is in place and functioning well, with no or only minor improvements needed', 12 characteristics were rated as 'the characteristic's control system is present and functioning, but some improvements are needed', 1 characteristic was rated as 'the characteristic is partially present and functioning, major improvements are needed' and none were rated as 'the characteristic is not present and functioning'.

The major improvement needed and the proposed deadline is as follows:

- Characteristic 14.1, internal communication: internal communication is performed on several subjects and through various channels, however, an internal communications policy is to be developed based on the overall ECDC communication policy 2021-2027, including communication on the objectives and responsibilities of internal control.
- Deadline: Q4 2022.

Implementation and monitoring of the agency's policies for the prevention and management of conflict of interest

It is important that ECDC's products and communications are scientifically correct and impartial. As ECDC relies on many internal and external experts who together shape the Centre's scientific position, ECDC introduced an independence policy in 2016 that ensures transparency and identifies risk of conflicts of interest. The policy has since been split into two documents, with one document covering non-staff, including Management Board and Advisory Forum (AF), and the other covering ECDC staff, including the ECDC Director and the Heads of Unit. A compliance officer oversees the implementation of this policy. An electronic system for the submission of declarations of interest minimises the amount of errors in the submitted documents. This facilitates the implementation of the independence policy and increases the compliance rate.

ECDC continued to apply and strengthen its independence policy for non-staff and for staff members. In 2021, the Centre lacked only a very small percentage of declarations: 2% of the appointed Management Board members/alternates did not file their Annual Declaration of Interest (ADoI), 5% of the appointed AF members/alternates failed to submit and all external experts consulted for Rapid Risk Assessment (RRA) declared their interests before publication of the RRA. It should be noted that all members of the Management Board and Advisory Forum attending the meetings and thus contributing to the discussions had valid ADoIs. The Director and Heads of Unit filled their ADoI and 97% of external experts participating in ECDC meetings that required a conflict-of-interest check submitted an ADoI.

Figure 22. Percentage of declarations of interest received, by group
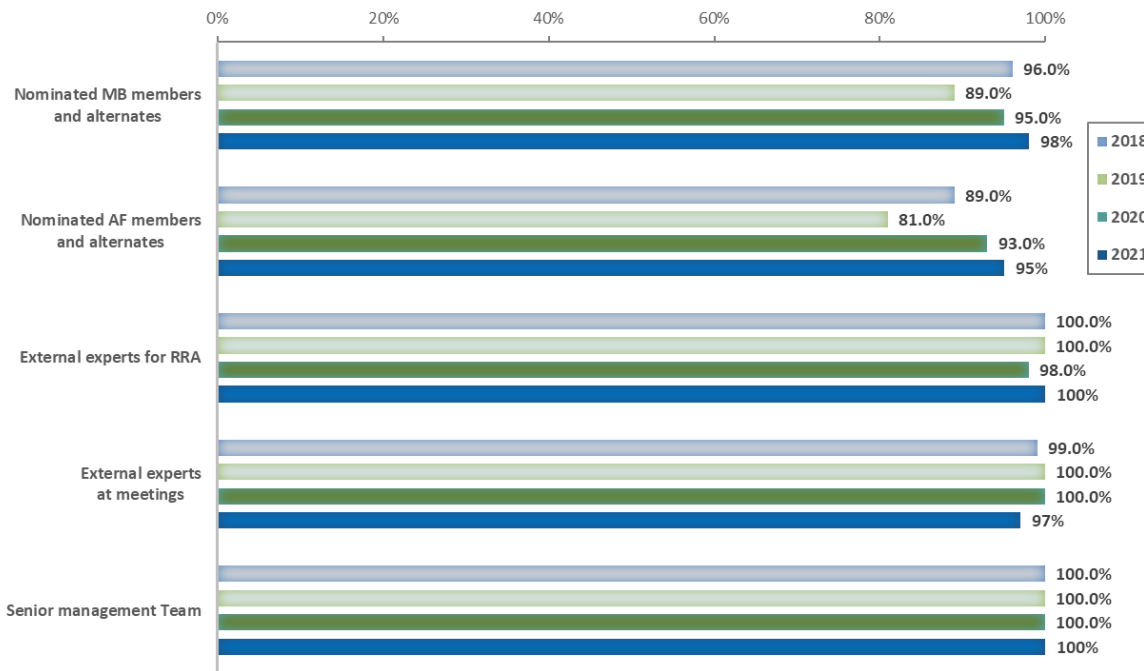
Conclusions of assessment of internal control systems

Given the fact that the control system in place, the information obtained from the building blocks of assurance mentioned below and the lack of critical findings from the Court of Auditors and the Internal Audit Service at the time of the declaration, there is no reason to question the effectiveness of the internal control system. However, some improvements are needed regarding the implementation of the internal control framework (as explained in paragraph 1.2 Internal Control Framework above).

The overall conclusion is that internal control system is present and functioning, but that some improvements are needed.

Statement of the manager in charge of risk management and internal control

Statement of the Manager in charge of risk management and internal control

I, the undersigned,

Manager in charge of risk management and internal control within ECDC,

In my capacity as Manager in charge of risk management and internal control, I declare that in accordance with ECDC's Internal Control Framework, I have reported my advice and recommendations on the overall state of internal control in the Agency to the Director.

I hereby certify that the information provided in the present Consolidated Annual Activity Report and in its annexes is, to the best of my knowledge, accurate, reliable, and complete.

Solna, 28th February 2022

Maarit Kokki
Head of Executive Office

Part 4. Management assurance

Review of the elements supporting assurance

The main building blocks of the Director's Declaration of Assurance are:

- The Director's own knowledge of the management and control system in place;
- The declarations of assurance made by each Authorising Officer by Delegation to the Director;
- The results of the self-assessment of internal control;
- The results of the self-assessment of the implementation of the Internal Control Framework;
- The results of the specific assessment performed;
- The results of the risk self-assessment exercises;
- The analysis and list of recorded exceptions;
- The status on the internal control and quality weaknesses reported;
- The results of the grant verifications known at the time of the declaration;
- The summary of OLAF activities;
- The summary of the implementation of the ECDC Independence Policy;
- The report from the Data Protection Officer 2021;
- The observations of the European Ombudsman known at the time of the declaration;
- The observations of the Internal Audit Service known at the time of the declaration;
- The observations of the European Court of Auditors known at the time of the declaration.

There were no significant weaknesses reported from these building blocks of assurance that are of such a significance that they would have an impact on the Director's Declaration of Assurance.

Reservations

Materiality criteria used regarding reservations

The concept of materiality provides the authorising officer with a basis for determining if an identified weakness should be subject to a formal reservation to the declaration of assurance or not.

When defining whether an identified weakness is material, ECDC assesses both qualitative and quantitative aspects:

Qualitative criteria

Weaknesses leading to critical operational damage
A detected weakness in the design or operation of ECDC's internal controls (affecting the Director's Declaration of Assurance) that would lead to critical operational damage.

The severity of the operational damage is assessed mainly through the size and sensitivity of the issue and area concerned and the potential damage on ECDC and its operations.

Weaknesses leading to critical reputational damage
A detected weakness in the design or operation of ECDC's internal controls (affecting the Director's Declaration of Assurance) that would lead to critical reputational damage.

The severity of the reputational damage is assessed mainly through the size and sensitivity of the issue and area concerned and the potential damage on ECDC's reputation, including the level of public interest.

Critical observations by auditors or OLAF
A critical observation made by the European Court of Auditors, the Internal Audit Service or OLAF could lead to a reservation.

ECDC especially considers if the observation is made in an area covered by the Director's Declaration of Assurance, if the issue was not solved immediately during the reporting period, and if the impact is potentially material.

Quantitative criteria
A quantifiable weakness in the control system is defined as material when ex-ante or ex-post controls detect errors regarding the legality and regularity of the underlying transactions of 2% or more (financial impact).

Thereby, if the most likely error affecting the underlying transactions for the internal control system/area in question is 2% or more, a reservation should be made.

However, only if the internal control system/area affected by the potential reservation represents 2% or more of the total payments made by ECDC for the year in question (for 2021 set at a minimum of €1.6 million), otherwise no financial reservation is made (without prejudice to a reservation for qualitative reasons).

The rate of 2% is based on the materiality rate applied by the European Court of Auditors.

Reservations for 2021

None.

Part 5. Declaration of assurance

Declaration of Assurance

I, the undersigned, Director of the European Centre for Disease Prevention and Control (ECDC),

In my capacity as authorising officer,

Declare that the information contained in this report gives a true and fair view[1].

State that I have reasonable assurance that the resources assigned to the activities described in this report have been used for their intended purpose and in accordance with the principles of sound financial management, and that the control procedures put in place give the necessary guarantees concerning the legality and regularity of the underlying transactions.

This reasonable assurance is based on my own judgement and on the information at my disposal, such as the results of the self-assessment, ex-post controls, the work of the Internal Audit Service and the lessons learnt from the reports of the Court of Auditors for years prior to the year of this declaration.

Confirm that I am not aware of anything not reported here which could harm the interests of the European Centre for Disease Prevention and Control (ECDC).

Stockholm, 4 March 2022

Andrea Ammon

Director

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[1] True and fair in this context means a reliable, complete and correct view on the state of affairs in the Agency.

Annex 1. Core business statistics 2021

In 2021, ECDC delivered 74% of the outputs planned in its Single Programming Document 2021–2023. Nine per cent of the planned outputs were postponed to 2022, while 16% were delayed or had not yet started at year-end 2021.

The following table provides the detail on the implementation of the 2021 work programme by SPD objective and related outputs.

No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
Strategic objective 1. Strengthen and apply scientific excellence in all ECDC's activities and outputs to inform public health policy and practice					
1	1.1 Standards	1.1.1. Operationalise the results of the EPHESUS project and the lessons learnt from the COVID-19 pandemic	Proposal for EU surveillance standards	Postponed to 2022	Focus on standards for surveillance of pandemic-prone respiratory viruses
2	1.1 Standards	1.1.2. Identify and define existing methods that should be used to establish standards for scientific processes and outputs to identify, assess, prevent and control infectious disease threats to public health	List of defined methods for establishing standards to be adopted in relevant ECDC policies and procedures	Delayed	In the context of the new mandate, ECDC initiated the work on revising its scientific advice processes and outputs
3	1.1 Standards	1.1.3. Ensure and demonstrate scientific independence in all ECDC activities in consultation with relevant stakeholders (on standards for safeguarding and demonstrating scientific independence)"	Draft position paper for Advisory Forum	Implemented	The draft ECDC Policy on Scientific Integrity and Independence was discussed and endorsed by the Advisory Forum and will be submitted to the Management Board (March 2022) for approval
4	1.2 Evidence	1.2.1. Ensure timely and effective monitoring of potential threats from infectious diseases	Daily Round Table report and weekly CDTR available on EpiPulse.	Implemented	Daily Round Table report and weekly Communicable Diseases Threat Report delivered according to schedule.
5	1.2 Evidence	1.2.1. Ensure timely and effective monitoring of potential threats from infectious diseases	Stakeholders access real time information on current signals, events and threats via EpiPulse and the ETMS.	Implemented	Transfer from all EPIS modules to EpiPulse took place in July 2021 and has been functioning well since then.
6	1.2 Evidence	1.2.2. Carry out routine indicator-based surveillance, including generation of high quality, relevant, and timely outputs	Data on reportable diseases collected in a consistent way, according to implementing decision 2018/945	Implemented	

No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
7	1.2 Evidence	1.2.2. Carry out routine indicator-based surveillance, including generation of high quality, relevant, and timely outputs	AER published for all diseases under surveillance	Delayed	ARHAI: AER published for antimicrobial consumption (2020 data). AER for AMR (2020 data) to be published Q1 2022. AER chapters for HAIs postponed to 2022 due to reallocation of resources to COVID-19 work. SBT: AER published for Hepatitis B and C and TB (2019 data), AER for HIV infection and AIDS, Chlamydia, Gonorrhoea, Lymphogranuloma venereum, Syphilis (2019 data) delayed. AER 2020 data delayed. CAI Zoonotic and seasonal influenza reports published in 2021 EVD: postponed to 2022 due to reallocation of resources to COVID-19 work FWD: delayed, postponed due to reallocation of resources to COVID-19 work LEG: AER 2020 for 2019 data published 24 May 2021, AER 2021 on 2020 data prepared for publication. VPI: postponed to 2022 due to reallocation of resources to COVID-19 work
8	1.2 Evidence	1.2.2. Carry out routine indicator-based surveillance, including generation of high quality, relevant, and timely outputs	Atlas of infectious diseases updated with newest data	Implemented	ARHAI: 2020 data available for AMR. Antimicrobial consumption data (2020) available in stand-alone database. SBT: 2020 data available for Chlamydia, Gonorrhoea, Hepatitis B and C, Lymphogranuloma venereum, Syphilis, Tuberculosis VPI: 2021 data to be published in the Atlas in March 2022 CAI: 2021 data available for Influenza and RSV EVD: 2020 data published in the Atlas 25 October 2021. FWD: 2020 data published in the Atlas 5 October 2021 LEG: 2020 data published 5 July 2021
9	1.2 Evidence	1.2.3. Coordinate EU level surveillance of all EU notifiable diseases and special health issues (incl. coordinated lab support)	Stand-alone surveillance reports (including HIV/AIDS report, TB surveillance and monitoring report, Euro GASP report, weekly FluNewsEurope bulletin (incorporating COVID-19), regular influenza and coronavirus characterisation reports, Monthly Measles and Rubella monitoring report, monthly ELDSNet report, Zoonoses and zoonotic AMR monitoring reports, AMR, antimicrobial consumption, HAIs	Implemented	ARHAI and FWD: 3rd report on Joint Interagency Antimicrobial Consumption and Resistance Analysis (JIACRA III, jointly with EFSA and EMA) covering 2016-2018 data, published June 2021 ARHAI: 1st ECDC- WHO Regional Office for Europe joint report on AMR surveillance (2020 data) published on 26 January 2022. HAI: report on surveillance of COVID-19 in long-term care facilities published on 29 November 2021. All other HAI surveillance. Other HAI reports postponed to 2022 due to COVID-19. Cal: FluNewsEurope on schedule. COVID-19 weekly surveillance reports published and COVID-19 dashboard updated daily. Quarterly Avian Influenza overview published. European Mortality Monitoring website available and updated weekly EFVED: The European Union One Health 2019 and 2020 Zoonoses Report published 9 Dec 2021 FWD AMR: on schedule LEG: monthly reports for TALD data published for 10 of 12 months. SBT HIV/ AIDS report published. TB report published. EUROGASP reports with 2019 and 2020 data published. VPI: Monthly Measles and Rubella monitoring report on schedule
10	1.2 Evidence	1.2.3. Coordinate EU level surveillance of all EU notifiable diseases and special health issues (incl. coordinated lab support)	EU protocol for the use of WGS and exposure data in surveillance of listeriosis in EU/EEA	Implemented	
11	1.2 Evidence	1.2.3. Coordinate EU level surveillance of all EU notifiable diseases and special health issues (incl. coordinated lab support)	Seasonal, real-time surveillance of vector-borne diseases to support blood safety measures	Implemented	EVD: Seasonal surveillance on West Nile virus infection and reporting (human and animal cases) was implemented between June and November 2021.

No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
12	1.2 Evidence	1.2.4. Provide evidence to support Member States to increase public health microbiology capacity	EQA reports (Euro GASP, Legionella EQA-report, EVD-LabNet activities, AMR for European Antimicrobial Resistance Surveillance Network (EARS-Net) participating laboratories, and in the area of vaccine-preventable diseases with specific focus on diphtheria, pertussis, invasive bacterial diseases, as well as schemes of Salmonella, Campylobacter, Listeria monocytogenes, and STEC)	On schedule	Direct support to WGS capacity building provided through ECDC grants with 24 Member States (value 77.1 million Euros): Implemented Direct support to SARS-CoV2 sequencing provided to 13 countries with limited capacity: On schedule CaI: Influenza and COVID-19 EQAs On schedule ARHAI: no report in 2021 (AMR EQA for EARS-Net 2020 was cancelled due to COVID-19). EFVED: on schedule EVD: EVD-LabNet EQAs on rodent-borne infections and on emerging alphaviruses are delayed due to hight workload on network laboratories in SARS CoV-2 diagnosis. Contract amendment in progress. Delivery expected in 2022. LEG: Annual report for the EQA Legionella scheme 2020/2021 prepared for publication. SBT: EUROGASP EQA reports 2019 and 2020 results published. VPI: EQA on Pertussis performed, results to be published in February 2022.
13	1.2 Evidence	1.2.4. Provide evidence to support Member States to increase public health microbiology capacity	EU Laboratory Capability Monitoring System (EULabCap) reports	Not started	In consultation with Member States it was decided that the EULabCap tool is to be updated and that next survey will be run in 2022.
14	1.2 Evidence	1.2.4. Provide evidence to support Member States to increase public health microbiology capacity	Public Health microbiology training sessions (EVD-LabNet activities, ERLI-Net activities)	Implemented	CaI: ERLI-net webinars conducted as planned during 2021 (Annual Influenza and COVID19 meeting in October 2021, start of season webinar with the surveillance network in October 2021). Wetlab training for influenza postponed to Q2 2022 due to the pandemic and travel constraints in 2021. Finalisation of an online training on assay validation to be published in EVA in 2022. Course delivered in 2021 EFVED: on schedule EVD: EVD-LabNet Webinar conducted as scheduled and online training on emerging alphaviruses is planned on 28-30 March 2022 (on schedule) VectorNet Webinar Vector Control Practices and Strategies 15 Oct 2021 Microbiology: Training sessions as part of COVID-19 response have been executed
15	1.2 Evidence	1.2.4. Provide evidence to support Member States to increase public health microbiology capacity	Other outputs (e.g. Technical Reports and Handbooks)	On schedule	CaI: on schedule EVD: EVD-LabNet Technical report on the use of urine as a matrix for diagnostic is delayed due to hight workload on contractor in SARS CoV-2 diagnosis. Delivery expected in 2022. VectorNet - Technical report Organisation of vector surveillance and control in Europe (13 December 2021)
16	1.2 Evidence	1.2.5. Produce consistently high-quality scientific work and advice within agreed deadlines to support evidence-informed decision and policy making	High-quality ECDC scientific advice outputs published on the Centre's website and/or as open access publication if published in peer-review scientific journals	On schedule	ARHAI: Multiple scientific outputs including peer-reviewed manuscripts published CaI: Multiple scientific outputs including peer-reviewed manuscripts published EFVED: Multiple scientific outputs including peer-reviewed manuscripts published VPI: mostly COVID-19 related outputs SBT: delayed, postponed due to reallocation of resources to COVID-19 work
17	1.2 Evidence	1.2.6. Ensure that all Public Health related ECDC actions, are reviewed through the IRIS instrument for consultation on priority setting	IRIS proposals and the Advisory Forum assessments	Postponed 2022	Agreed that this will not be done in 2021, due to focus of AF business on COVID-19

No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
18	1.2 Evidence	1.2.7. Establish formalised mechanism for engagement with national Competent Bodies in establishing priorities for scientific advice and knowledge outputs	Minutes of first consultation meeting, including listing of scientific advice and knowledge output priorities for national Competent Bodies	Not started	
19	1.2 Evidence	1.2.8. Establish a repository for collation of quality-assured guidance developed by national authorities and professional bodies in EU Member States	Repository available and the procedures (including quality standards) for inclusion of documents agreed with Advisory Forum	Postponed 2022	Extension of repository beyond current ARHAI repository postponed to 2022
20	1.2 Evidence	1.2.9. WGS services	National isolates sequenced by ECDC in the context of multinational outbreaks.	On schedule	EFVED: on schedule Microbiology: AMR, FWD and COVID-19 sequencing ongoing. SBT: delayed, postponed due to reallocation of resources to COVID-19 work SARS-CoV-2: On Schedule
21	1.3 Methodologies	1.3.1. Develop and assess standards and processes that support the transparent, consistent and efficient production and clearance of scientific work and advice.	The Scientific Advice Repository and Management System (SARMS) is the sole support platform for the production and clearance of all scientific outputs of the Centre	Implemented	New improved version of SARMS launched
22	1.3 Methodologies	1.3.1. Develop and assess standards and processes that support the transparent, consistent and efficient production and clearance of scientific work and advice.	SARMS contains templates and guidelines for the production of scientific outputs and supports the production and clearance process with e-workflows.	On schedule	Update and further improvement of current templates and guidelines is ongoing
23	1.3 Methodologies	1.3.1. Develop and assess standards and processes that support the transparent, consistent and efficient production and clearance of scientific work and advice.	SARMS provides a comprehensive overview of the Centre's scientific outputs, supports peer-review and quality assurance, ensures compliance with ECDC policies, standards and processes/procedures and monitors responsiveness to external requests to the Centre.	Implemented	
24	1.3 Methodologies	1.3.2. Develop guidance on options and application of enhanced statistical methods for trend analysis of surveillance data	Guidance document on statistical methods for trend analysis	On schedule	Guidance was developed. Publication in 2022
25	1.3 Methodologies	1.3.3. Further develop and deliver advice and support on evidence-based public health methods	Training course in evidence-based public health methods	Delayed	The last face-to-face training workshop took place in January 2020 Adaptations ongoing for virtual live workshop and/or transition to self-paced e-learning modules

No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
26	1.4 Knowledge transfer	1.4.1. Pilot knowledge management approaches for strengthening the community of practice within and outside ECDC	Inventory of existing practices	On schedule	Knowledge management practices reviewed as part of the work of the IKM Steering Committee in developing the knowledge management framework for the Centre
27	1.4 Knowledge transfer	1.4.1. Pilot knowledge management approaches for strengthening the community of practice within and outside ECDC	Pilot initiated	On schedule	Public Health Emergency output toolkit, including guidance and templates to further improve the ECDC PHE outputs and in particular the summary/green box that is included in all Rapid Risk Assessments and other key scientific outputs
28	1.4 Knowledge transfer	1.4.2. Organise the annual European Scientific Conference on Applied Infectious Disease Epidemiology (ESCAIDE), in cooperation with Member States, the European Commission (including SANTE, CHAFEA, JRC) and other EU agencies, and include a ""knowledge for policy and practice"" track at the conference	ESCAIDE track on knowledge for policy and practice	Implemented	ESCAIDE conference took place November 16-19
29	1.4 Knowledge transfer	1.4.2. Organise the annual European Scientific Conference on Applied Infectious Disease Epidemiology (ESCAIDE), in cooperation with Member States, the European Commission (including SANTE, CHAFEA, JRC) and other EU agencies, and include a ""knowledge for policy and practice"" track at the conference	2021 edition of ESCAIDE to be hosted in Warsaw, Poland	Implemented	ESCAIDE conference took place November 16-19 as an online event due to the COVID-19 pandemic.
30	1.4 Knowledge transfer	1.4.3. Ensure production and wide dissemination of Eurosurveillance as a high quality journal with good visibility	Scientific seminar with focus on 25th anniversary	Implemented	Seminar took place on 19 November 2021: https://www.eurosurveillance.org/seminar#2021 https://www.youtube.com/watch?v=hqI7nLxxOkg
31	1.4 Knowledge transfer	1.4.3. Ensure production and wide dissemination of Eurosurveillance as a high quality journal with good visibility	Board meeting with action points for 2022	Implemented	Board meeting including three preparatory meetings held on 22, 20,15 and 13 October; final minutes sent on 29 October 2021.
32	1.4 Knowledge transfer	1.4.3. Ensure production and wide dissemination of Eurosurveillance as a high quality journal with good visibility	50 issues of Eurosurveillance	Implemented	Weekly issues since week 1 2021 with a mix of rapid communications and regular articles; regular social media posts

No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
33	1.4 Knowledge transfer	1.4.4. Promote transparency and reproducibility in generating scientific information among Eurosurveillance contributors/audience through respective editorial policies	Up-to-date editorial policies, further increased completeness of articles	Implemented	Revision of instructions for authors, policy on how articles from board members are handled and published, more authors submitting checklists also voluntarily, new policy on publishing ADoI from board members and on preprints.
34	1.4 Knowledge transfer	1.4.4. Promote transparency and reproducibility in generating scientific information among Eurosurveillance contributors/audience through respective editorial policies	Workshop on the margins of ECDC-organised events (ESCAIDE, ECDC summer school, traineeship project review module) or at national Public health institutes	Implemented	Contribution as facilitator in EPIET/EUPHEM PRM, presentations for MedIPIET end August and September, respectively. Presentation at seminar at Santé publique France in November.
35	1.4 Knowledge transfer	1.4.5. Develop communication formats and tools for effective delivery of information and evidence to specific audiences	Proposal for one tailored communication model piloted with a selected audience	On schedule	Public Health Emergency output toolkit, including guidance and templates to further improve the ECDC PHE outputs and in particular the summary/green box that is included in all Rapid Risk Assessments and other key scientific outputs
36	1.4 Knowledge transfer	1.4.6. Strengthen the dissemination and communication of ECDC key scientific outputs to ensure they reach their target audience, and are accessible at no cost for the user	All ECDC scientific outputs published on the website	On schedule	Cal: on schedule SBT: on schedule VPI: on schedule ARHAI: on schedule
	Strategic objective 2. Support the countries to strengthen their capacities and capabilities to make evidence-based decisions on public health policies and practices				
37	2.1 Country focus	2.1.1. Networks Interactions	Diseases Network meetings and Public Health functions Network meetings	Implemented	ARHAI: joint information meeting for the ARHAI networks, 21-22 April 2021. No network meetings were planned for 2021. Cal: Network meeting held: 7th Joint WHO EURO and ECDC European Influenza and COVID-19 Surveillance Meeting (virtual). EVD: EVD Network Annual meeting (virtual) 19-20 May 2021 FWD: European Food- and Waterborne Diseases and zoonoses network AMR: implemented on 19-20 April LEG: ELDSNet network business meeting 9 June ELDSNet 2021 annual meeting 18-19 October NFP meeting Microbiology organised in March and April 2021. Surveillance NFP meeting held in October 2021. NFP Training/TSF meeting held quarterly since 26 March 2021. Fellowship Training Site Forum (TSF) meetings, monthly since 30 April. VPI: No network meeting IMD this year SBT: TB and Hepatitis network meeting held virtual. STI and HIV network meeting postponed till 2022.
38	2.1 Country focus	2.1.1. Networks Interactions	Disease Network and Public Health Functions Network Coordination Committees meetings	Implemented	ARHAI: achieved (DNCC meetings for EARS-Net, ESAC-Net and the Healthcare-Associated Infections Surveillance Network took place as planned); Cal: DNCC nominations completed in June 2021 EVD DNCC Meeting implemented on 21st May and 21st October FWD DNCC meeting scheduled for 23 November LEG: ELDSNet DNCC meeting 14 June and Annual Meeting October VPI: Regular NITAG network webinars on COVID-19 vaccine/vaccination issues SBT: Achieved (All DNCC meetings took place as planned). NFPT Coordination Committee and TSF Chairs met on 23 April.

No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
39	2.1 Country focus	2.1.1. Networks Interactions	Other meetings (inter-sectoral meeting(s) with key stakeholders)	Implemented	CaI: weekly meetings with COVID-19 Network and subnetworks held. Weekly meetings with WHO-European Regional Office on COVID-19 and Influenza FWD: ECDC-EFSA joint meeting postponed to 2022 due to moratorium on face-to-face meetings. SBT: Different meetings/webinars with TB, hepatitis and HIV disease networks and the WHO Regional Office for Europe held. EVD: FAO-IAEA ZODIAC Senior/Expert Animal Health Consultant Meeting (virtual) to discuss and formulate the ZODIAC Coordinated Research Projects, 22, 24, 26 February 2021 Workshops of the European Reference Laboratories for EVA and arthropod-borne encephalitis viruses (WNV, JEV, EEEV, WEEV and VEEV), 15-16 April 2021. EFSA-IZSAM Crisis Preparedness Exercise - Rift Valley fever, 06-08 July, 2021 Society of Vector Ecology (SOVE): Webinar Series I – Topic Vector-borne Disease Preparedness and Response, 23 July 2021 FAO-IAEA Consultancy Meeting on Development of Tools for the Mining, Monitoring and Tracing of Zoonotic Pathogens in Europe and Central Asia, 03 September 2021. COHESIVE One Health EJP – End symposium, 08-10 November 2021 EFSA's annual internal crisis preparedness training, 11. November 2021 ERINHA - High Consequence Infectious Diseases in Central Eastern Europe: Gaps & Cooperation Opportunities, 25 November 2021
40	2.1 Country focus	2.1.2. Country Support	IT requirements defined and finalized. Visualization tool selected. Content under development.	On schedule Not started	First release gradually to be done in 2022, for internal ECDC use
			Country visits, with a focus on after-/in-action reviews in relationship with Covid-19 response, conducted	On schedule	Possible alternatives to incorporate unstructured data in the country overviews were identified Internal procedure in place but tool not fully functional
			Unstructured data compilation and visualization, including from network meetings and country mission reports	On schedule	
			Internal procedure for country missions adopted. Tool set up and functional so ECDC and host country can work at the same time on related document and access the country mission reports.	Delayed	The HAI outbreak investigation course was postponed due to COVID-19.
			Healthcare-associated infections (HAI) outbreak investigation course delivered	Delayed	Procurement done. Work on training needs, existing courses, existing projects done.
			Training course for frontline healthcare professionals		
41	2.2 Prevention and control programmes	2.2.1. Develop scientific advice on communicable disease prevention and control measures	Expert Opinions	On schedule	CaI: ESCMID clinical management guidelines for Influenza delayed due to COVID-19 pandemic

No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
42	2.2 Prevention and control programmes	2.2.1. Develop scientific advice on communicable disease prevention and control measures	Public Health Guidance (Public health guidance on prevention of infections in PWID (jointly with European Monitoring Centre for Drugs and Drug Addiction)	Delayed	SBT: PWID joint guidance with EMCCDDA delayed, due to reduced staff and delays with Contractor. Publication of the guidance postponed till 2022.
43	2.2 Prevention and control programmes	2.2.1. Develop scientific advice on communicable disease prevention and control measures	Technical reports (e.g., on a core EU vaccination schedule; piloted case studies on vaccination coverage)	Implemented	VPI: Interim technical guidance on the benefits of full vaccination against COVID-19 for transmission and implications for non-pharmaceutical interventions VPI: Six technical reports on COVID-19 vaccine deployment plans VPI: COVID-19 vaccine tracker dashboard and weekly rollout overview reports VPI: Interim public health considerations for the provisions of additional COVID-19 vaccine doses VPI: Partial COVID-19 vaccination, vaccination following SARS-CoV-2 infection and heterologous vaccination schedule: summary of evidence SBT: Publication of technical guidance on HIV pre-exposure prophylaxis (PreP) in EU/EEA and the UK: implementation, standards and monitoring Technical report on countering online vaccine misinformation in the EU/EEA Technical report on facilitating COVID-19 vaccination acceptance and uptake in the EU/EEA Technical report on Behavioural Insights research to support the response to COVID-19 in the EU/EEA.
44	2.2 Prevention and control programmes	2.2.1. Develop scientific advice on communicable disease prevention and control measures	Systematic reviews	On schedule	Cal: three SRs on schedule EFVED: on schedule EVD: "Systematic review on tick-borne encephalitis virus transmission" – manuscript submitted for clearance in December 2021. VPI: ongoing LIVE SR on efficacy, effectiveness, safety of COVID-19 vaccines in the context of NITAG collaboration SBT: one SR on schedule
45	2.2 Prevention and control programmes	2.2.1. Develop scientific advice on communicable disease prevention and control measures	Other scientific outputs (vaccine effectiveness and impact analyses on COVID-19 and seasonal influenza, vaccine coverage estimates for COVID-19 and influenza)	On schedule	Cal: on schedule including Influenza VE VPI: on schedule with focus on COVID-19 vaccine tracker and related outputs VPI: initiation of procured COVID-19 vaccine effectiveness studies (VEBIS project)
46	2.2 Prevention and control programmes	2.2.1. Develop scientific advice on communicable disease prevention and control measures	Training materials (in the field of vaccine hesitancy, training curriculum targeting HCPs on communications with hesitant members of the public)	Delayed	VPI: Ongoing study on vaccine misinformation and strategies to address these VPI: Launch of study to develop training curricula for HCPs as to increase vaccine acceptance An online training on vaccine misinformation is being prepared. Development of the content is ongoing with the contractor.
47	2.2 Prevention and control programmes	2.2.1. Develop scientific advice on communicable disease prevention and control measures	Reporting on WGS framework for invasive meningococcal disease	Postponed 2022	VPI: This is postponed to 2022
48	2.2 Prevention and control programmes	2.2.1. Develop scientific advice on communicable disease prevention and control measures	Scoping Reviews (Literature review of available influenza antiviral treatment options)	Postponed 2022	Postponed due to COVID-19
	2.2 Prevention and control programmes	Strengthen whole genome sequencing and RT-PCR capacity in the EU/EEA	National WGS and/or RT-PCR infrastructure support projects initiated	Implemented	

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No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
	2.2 Prevention and control programmes	Strengthen whole genome sequencing and RT-PCR capacity in the EU/EEA	Framework contract for WGS and RT-PCR cross-border capacity-building activities signed	Implemented	
49	2.3 Training	2.3.1. Improvements of the Fellowship Programme, based on the results of the 2019 external evaluation	ECDC will start implementing the roadmap for an improved programme, by launching the call for applications for Cohort 2022. The first changes will be incorporated in the Administrative Decision. Curricular updates will be reflected in the Administrative Decision for cohort 2024.	On schedule	On 26 March, TSF/NFPT and WGs consultation to present and discuss the roadmap. Roadmap presented and discussed with AF in May and presented to Management Board in June. Administrative Decision updated and published including some improvements for Cohort 2022. Working groups for operationalising the roadmap initiated in quarterly TSF/NFPT meetings.
50	2.3 Training	2.3.2 Offer a Continuous Professional Development (CPD) that responds to the needs identified by the ECDC networks, and provide tools and support for the transfer of knowledge at European, national and sub-national levels, with special attention to COVID-19 related needs	Offer presented in annual catalogue and delivered including on RRAs, WGS Vaccine preventable diseases, preparedness, e-health…	Implemented	The update of the applied epidemiology competencies project was completed. The final version and the accompanying tools will be available in Q1 2022. Catalogue with CPD training offer published on EVA and ECDC web site. COVID-19 WGS workshops on training needs assessment are being run Launched in EVA: • How to design a functional exercise e-learning • How to design a table-top e-learning • Epidemic intelligence published • Antimicrobial stewardship e-learning published After-action review e-learning published
51	2.3 Training	2.3.2 Offer a Continuous Professional Development (CPD) that responds to the needs identified by the ECDC networks, and provide tools and support for the transfer of knowledge at European, national and sub-national levels, with special attention to COVID-19 related needs	Two key training to trainers modules on Emergency Preparedness delivered with participation of at least ten Member States	Implemented	Train-the-trainers module delivered as part of the Winter workshop
52	2.3 Training	2.3.2 Offer a Continuous Professional Development (CPD) that responds to the needs identified by the ECDC networks, and provide tools and support for the transfer of knowledge at European, national and sub-national levels, with special attention to COVID-19 related needs	CPD offer is further developed, and reflects the new needs identified, targeting professionals in the CCB networks and supervisors of the ECDC Fellowship Programme	Implemented	The summer school was specifically targeted to the supervisors of the Fellowship Programme, who could also join an e-learning course and the Winter workshop on After Action Reviews. The WG Training Needs Assessment has identified priorities for SPD 2022 through contacts with DP/CCB networks, for discussion with PHT Steering Committee.

No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
53	2.3 Training	2.3.3. Keep continuous quality improvement activities, accreditation and evaluation as an essential part of ECDC training programmes and activities.	Courses in ECDC training programmes, accredited	On schedule	The following e-learning courses applied for accreditation from APHEA • After-action review e-learning (accredited) • Epidemic intelligence e-learning (accredited) • How to design a functional exercise e-learning (application submitted, pending decision) How to design a table-top e-learning (application submitted, pending decision)
54	2.3 Training	2.3.3. Keep continuous quality improvement activities, accreditation and evaluation as an essential part of ECDC training programmes and activities.	Accreditation of the ECDC Virtual Academy itself, explored	Postponed 2022	
55	2.3 Training	2.3.4 Maintain the ECDC Virtual Academy (EVA) as a learning system that includes training materials, and the administration of all ECDC training offer (face-to-face, online and blended) for the different training programmes and activities	Interactive catalogue of all CPD activities for 2022 available in EVA Q4	Implemented	The Catalogue is published in two formats: through EVA available here https://eva.ecdc.europa.eu/totara/catalog/index.php and a document available on ECDC Webpage https://www.ecdc.europa.eu/en/publications-data/continuous-professional-development-training-activities-course-listings-2022 There are currently 21 courses available in EVA, 8 of which were launched in 2021.
56	2.3 Training	2.3.5. Identify country capacity gaps and training needs through the triennial assessment surveys (CCBs and NFPT), to tailor trainings and reduce inequalities in capacity across Europe	Tools for ECDC annual network meetings available, and their use promoted	Postponed 2022	Tools for EU/EEA CCBs will be developed under outsourced mechanism (procurement) in 2022
57	2.3 Training	2.3.5. Identify country capacity gaps and training needs through the triennial assessment surveys (CCBs and NFPT), to tailor trainings and reduce inequalities in capacity across Europe	Survey conducted, following the recommendation from the internal audit service (IAS) of the European Commission	On schedule	New survey to CCB launched in October (Q4)
58	2.4 Emergency preparedness	2.4.1. Provide technical support in the three phases of the preparedness and response cycle: anticipation, response, recovery	Simulation exercises	On schedule	Off the shelf exercise for *Legionella* outbreaks. Contract awarded and programme underway for delivery early 2022 Stress-test on logistical aspects of COVID-19 vaccination deployment plans organised for the EU/EEA member states and for the Western Balkans.
59	2.4 Emergency preparedness	2.4.1. Provide technical support in the three phases of the preparedness and response cycle: anticipation, response, recovery	After action reviews	On schedule	Contract on the protocol for AAR on decision making is completed. A new Framework contract for the guidance on AAR is under preparation. A contract on AAR on decision making in LTCFs in ongoing with three countries. A contract on AAR on decision making in Schools is in preparation.

No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
60	2.4 Emergency preparedness	2.4.1. Provide technical support in the three phases of the preparedness and response cycle: anticipation, response, recovery	Case studies Public Health Emergency Preparedness (PHEP) plans assessment	On schedule	Three countries agreed to participate in the case studies – specific contract to be signed
61	2.4 Emergency preparedness	2.4.1. Provide technical support in the three phases of the preparedness and response cycle: anticipation, response, recovery	Literature reviews	Implemented	All literature reviews are underway or completed
62	2.4 Emergency preparedness	2.4.1. Provide technical support in the three phases of the preparedness and response cycle: anticipation, response, recovery	Expert meetings on emerging topics	Implemented	Monthly webinars with the national focal points for preparedness and response organized on a monthly basis in 2021
63	2.4 Emergency preparedness	2.4.1. Provide technical support in the three phases of the preparedness and response cycle: anticipation, response, recovery	Outbreak investigation protocols and tools ready and available	Implemented	Contact tracing guidance updated in October 2021. In collaboration with VPI, protocols to assess vaccine effectiveness in closed and semi-closed settings were developed
64	2.4 Emergency preparedness	2.4.1. Provide technical support in the three phases of the preparedness and response cycle: anticipation, response, recovery	Field deployments upon requests from the Member States, the European Commission (Directorate General for European Civil Protection and Humanitarian Aid Operations, Directorate-General for Health and Food Safety) and WHO Global Outbreak Alert and Response Network	Implemented	One mission to participate in the Joint external evaluation for Ukraine in Nov-Dec 2021 was completed
65	2.4 Emergency preparedness	2.4.1. Provide technical support in the three phases of the preparedness and response cycle: anticipation, response, recovery	Collaboration agreement with Directorate General for European Civil Protection and Humanitarian Aid Operationsto provide expertise and facilitate field deployments in response to requests from the Member States and the European Commission	On schedule	Draft concept note on the future EU health task force deployment in collaboration with Directorate General for European Civil Protection and Humanitarian Aid Operations, developed on the basis of previous documents elaborated with Directorate General for European Civil Protection and Humanitarian Aid Operationsand considering new humanitarian assistance mechanisms of Directorate General for European Civil Protection and Humanitarian Aid Operations
66	2.4 Emergency preparedness	2.4.1. Provide technical support in the three phases of the preparedness and response cycle: anticipation, response, recovery	EWRS properly functioning and further improved according to the needs of the Commission and Member States	Implemented	Weekly coordination with SANTE C-3 to follow up and monitor EWRS. Evaluation of the EWRS during the pandemic
67	2.4 Emergency preparedness	2.4.1. Provide technical support in the three phases of the preparedness and response cycle: anticipation, response, recovery	Preparedness indicators	On schedule	Five countries participated in the project covering 4 areas: lab testing, surveillance, risk communication, health/hospital system coordination. Deliverables received from the contractors in Q4 and will be published in Q2 2022

No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
68	2.4 Emergency preparedness	2.4.2. Provide support for strengthening competencies in the area of preparedness and response	Preparedness and response training modules in ECDC virtual academy (EVA)	On schedule	Competency based training modules cancelled due to reprioritization of activities Training modules on preparedness updated in EVA: two e-learning modules were launched, one on Epidemic intelligence and one on After-Action reviews. A training needs analysis was performed and will serve as a basis for the development of future trainings.
69	2.4 Emergency preparedness	2.4.2. Provide support for strengthening competencies in the area of preparedness and response	Use of ECDC tools – risk ranking, Health Emergency Preparedness Self-Assessment, SIMEX handbook in work with key stakeholders	Implemented	Risk ranking and Health Emergency Preparedness Self-Assessment tools used in the HSI and Africa CDC projects. SIMEX performed and under planning SIMEX handbook completed with relevant EVA web-learning activity accredited by APHEA
70	2.4 Emergency preparedness	2.4.2. Provide support for strengthening competencies in the area of preparedness and response	Bio-risk awareness workshops	Postponed to 2022	Due to COVID-19 the bio-risk workshops planned within joint actions have been postponed
71	2.4 Emergency preparedness	2.4.3. Produce and disseminate Rapid Risk Assessments, and response related duties	RRAs and Joint ECDC-EFSA public health risk assessments (rapid outbreak assessments), including joint notification summaries	Implemented	RRA and Rapid Outbreak Assessment being regularly delivered. Training activities on RRA planned and delivered
72	2.4 Emergency preparedness	2.4.3. Produce and disseminate Rapid Risk Assessments, and response related duties	Response related rosters functional	Implemented	Response rosters organized and delivered as planned
73	2.4 Emergency preparedness	2.4.4. Managing requests for technical and scientific assistance to support EU response actions in the field	Reviewed set of processes for managing requests for technical and scientific assistance to support EU response actions in the field	On schedule	Draft concept note on the future EU Health Task Force in collaboration with Directorate-General for Health and Food Safety ongoing. Draft concept note on joint field deployment with Directorate General for European Civil Protection and Humanitarian Aid Operations.
74	2.4 Emergency preparedness	2.4.5. Maintain and network for the Emergency Operation Centre and Public Health Emergency (PHE) tools	Emergency Operation Centre equipment upgraded	On schedule	Emergency Operation Centre fully operational and functional PHE plan and PHE tools updated and under review The equipment of the EOC regularly renewed and upgraded
75	2.4 Emergency preparedness	2.4.5. Maintain and network for the Emergency Operation Centre and Public Health Emergency (PHE) tools	Organisation of an international Emergency Operation Centre meeting	Not started	Envisaged for Q1 2023
76	2.4 Emergency preparedness	2.4.5. Maintain and network for the Emergency Operation Centre and Public Health Emergency (PHE) tools	PHE training internal and external	Implemented	A PHE internal training for newcomers was developed and is available
	Strategic objective 3. Future outlook: Prepare for the future through foresight and innovation assessments				
77	3.1 Foresight	3.1.1. Prediction modelling for foresight programme initiated	Data content for priority public health infectious diseases drivers	Delayed	Scenario modelling for COVID-19 conducted, with outputs presented to the Advisory Forum, the Health Security Committee, and published in a peer review journal paper
78	3.1 Foresight	3.1.2. Expert consultation on simulation models developed by ECDC	Meeting report	Delayed	ECDC coordinated an European COVID-19 Forecast Hub as part of its COVID-related modelling activities

No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
79	3.1 Foresight	3.1.3. Develop a mechanism for identifying evidence-synthesis needs and knowledge gaps	Protocol established for the mechanism	On schedule	Aligned with SPD Objective #: 1.2.7. Being addressed partially through input to the stakeholder survey planning.
80	3.2 Engage	3.2.1. Develop a way for identifying and communicating research priorities relevant to the prevention and control of infectious disease	Protocol	Delayed	Meeting with Directorate-General for Health and Food Safety and DG RTD to discuss mechanisms for ECDC to provide input to research priority setting and/or planning, and for contributing to EU Joint Actions and Research projects, held on 11/03/2021. Protocol developed for collating knowledge gaps and research priorities in the field of infectious disease prevention and control as perceived by experts working in ECDC, in national public health institutes, and in other ECDC collaborating partner organisations.
81	3.2 Engage	3.2.2. Contribute to EU Joint Actions and EU Research projects	ECDC contributions to ongoing projects, including expert advice, data, and technical support (subject to resource availability and concordance with ECDC mandate)	On schedule	Meeting with Directorate-General for Health and Food Safety and DG RTD to discuss mechanisms for ECDC to provide input to research priority setting and/or planning, and for contributing to EU Joint Actions and Research projects, held on 11/03/2021 EFVED: on schedule Cal: on schedule
82	3.2 Engage	3.2.3. Establish stronger links with EU research initiatives, through appropriate engagement with EU research commissioning bodies in priority-setting and evaluation of research proposals	Report to ECDC Advisory Forum and Management Board on conclusions of consultation	On schedule	Meeting with Directorate-General for Health and Food Safety and DG RTD to discuss mechanisms for ECDC to provide input to research priority setting and/or planning, and for contributing to EU Joint Actions and Research projects, held on 11/03/2021. Regular participation of ECDC in DG RTD "research to policy action" meetings to facilitate the dialogue between the research community and the public health policy makers, and to ensure the timely translation of research into policy aims to bring together the different initiatives.
83	3.2 Engage	3.2.4. Collaborate with other EU Agencies, through the EU Agency Network on Scientific Advice (EU-ANSA), to develop: - Identification and communication of need for research in areas of mutual interest, - Innovative approaches to address issues of mutual interest through scientific collaboration and sharing of expertise in research clusters"	Statement on shared priorities for research	On schedule	ECDC to organise and chair EU-ANSA meeting in May 2021. ECDC led an initiative with its partners in EU-ANSA to develop a scientific seminar series to increase awareness of scientific activities between Agencies, to stimulate cross-Agency projects, and to offer a 'shared service' model for continuing professional development of scientific staff in all EU-ANSA affiliated agencies. ECDC co-organised the first seminar in partnership with the Joint Research Centre, on the topic of COVID-19 and mathematical disease modelling
84	3.3 Support transformation	3.3.1. Explore the feasibility and added public health value of surveillance, based on electronic health records for few diseases in selected countries	Initial assessment on obstacles and limitations for the use of electronic health information systems for infectious disease surveillance	On schedule	Specific activities taking place in a subnetwork of the SARI surveillance project
85	3.3 Support transformation	3.3.1. Explore the feasibility and added public health value of surveillance, based on electronic health records for few diseases in selected countries	Initial Proof of Concept results delivered to ECDC	On schedule	Done for SARI surveillance in seven countries Plans in place to provide financial and technical support to MS in 2022-2025
86	3.3 Support transformation	3.3.2 Modernise and integrate EU/EEA surveillance platforms	EpiPulse and new data warehouse up and running	Delayed	Delay caused by COVID-19 work and other factors. EpiPulse Events and Docs (except for TALD) and Molecular Typing live since July 2021.

No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
87	3.3 Support transformation	3.3.2 Modernise and integrate EU/EEA surveillance platforms	Smooth Atlas update and AER production	On schedule (Atlas) Delayed (AER)	AER deprioritised due to pandemic
88	3.3 Support transformation	3.3.2 Modernise and integrate EU/EEA surveillance platforms	Long-term surveillance framework 2021-2027	Delayed	Management Board endorsement pending new ECDC mandate and cross-border health threat legislation
89	3.3 Support transformation	3.3.2 Modernise and integrate EU/EEA surveillance platforms	Blueprint for the future of EU/EEA surveillance	On schedule	Completed, with main developments agreed with MS during the JSM. To be implemented from 2022.
90	3.3 Support transformation	3.3.3. Assess the potential impact on public health key functions of recent advances in digital technology and microbiological diagnostics to guide the future technical direction of the Centre"	Roadmap for gradual integration of new technologies in routine practice	On schedule	Assessment of the new technologies, including the consultation performed in 2021 and the final report will be taken into account when finalizing the Digital roadmap in 2022
91	3.3 Support transformation	3.3.3. Assess the potential impact on public health key functions of recent advances in digital technology and microbiological diagnostics to guide the future technical direction of the Centre"	Mapping of technologies that have the potential to impact public health key functions	Implemented	Scoping reviews and mapping exercises performed. Stakeholder and expert consultation meetings took place.
92	3.3 Support transformation	3.3.4. Implement the molecular surveillance strategic framework	Ongoing molecular typing surveillance for all diseases planned for implementation in 2021	Delayed	Major efforts into the development of COVID-19 molecular surveillance. Other diseases to be resumed according to plan from 2022, depending on pandemic evolution.
93	3.3 Support transformation	3.3.5. Automate signal detection from social networks	Tool for detecting and monitoring events from social networks	Implemented	Further development of EpiTweetr ongoing. Expansion to monitoring of more data sources planned for 2022
Strategic objective 4. Increase the health security in the EU through strengthened cooperation and coordination between ECDC and partners in non-EU countries					
94	4.1 Neighbourhood	4.1.1. Gradually integrate Western Balkans and Turkey into ECDC systems and networks via enhanced technical cooperation and support their preparations for participation in ECDC activities; their advancement on 'One-Health' approach against AMR; and enhancing SARI surveillance in Western Balkans	Technical cooperation activities initiated on the One-Health approach against AMR	Delayed	Initiation of WS2 of ECDC-IPA6 project on advancing One Health approach against AMR in Western Balkans delayed due pending allocation of expert FTEs in technical area; necessary experts have been assigned, so planning of procurement procedure resumed now

No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
95	4.1 Neighbourhood	4.1.1. Gradually integrate Western Balkans and Turkey into ECDC systems and networks via enhanced technical cooperation and support their preparations for participation in ECDC activities; their advancement on 'One-Health' approach against AMR; and enhancing SARI surveillance in Western Balkans	ECDC pre-accession assistance activities to prepare Western Balkans and Turkey for their participation in ECDC	On schedule	Enhancing SARI surveillance in Western Balkans have been added as of 2021; implementation initiated as planned ENLabCap surveys as well as regional meeting on adaptation of the tool to align with EULabCap revision is on halt
96	4.1 Neighbourhood	4.1.2. Support the progressive integration of ENP partner countries into ECDC activities and enhance health security through improving public health systems capacities and capabilities, including training through the continuation of MediPIET to respond to health threats related to communicable diseases and enhancing regional cooperation	- Development of work plan to deliver Epidemic intelligence, risk assessment, preparedness and response capacity building activities	On schedule	Work programme is being implemented according to the planned schedule (with some adaptations)
97	4.1 Neighbourhood	4.1.2. Support the progressive integration of ENP partner countries into ECDC activities and enhance health security through improving public health systems capacities and capabilities, including training through the continuation of MediPIET to respond to health threats related to communicable diseases and enhancing regional cooperation	- Develop criteria for integration of ENP partner countries into ECDC systems and networks	Delayed	Integration framework – the task will be performed with the support of external remunerated experts. The selection of experts is delayed

No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
98	4.1 Neighbourhood	4.1.2. Support the progressive integration of ENP partner countries into ECDC activities and enhance health security through improving public health systems capacities and capabilities, including training through the continuation of MediPIET to respond to health threats related to communicable diseases and enhancing regional cooperation	- Perform baseline measurement on vulnerabilities and needs of ENP countries	Implemented	In June 2020, ENP partner countries were invited to participate in the capacities self-assessment process to respond to public health emergencies (aka measurement on vulnerabilities and needs). So far, 9 ENP partner countries Georgia, Moldova, Armenia, Egypt, Libya, Palestine*, Azerbaijan, Lebanon, and Ukraine provided requested information. Draft reports have been prepared and now ECDC is holding bilateral consultations with the countries. *This designation shall not be construed as recognition of a State of Palestine and is without prejudice to the individual positions of the Member States on this issue.*
99	4.1 Neighbourhood	4.1.3. Following the request from European Commission, continue assessment of partner non-EU countries and finalise and follow-up the assessment of Western Balkans and Turkey and ENP partner countries	Technical assessment reports and initiation of national post-assessment action plans	On schedule	The progress of WB and Turkey, including implementation of existing action plans reported to Directorate-General for Health and Food Safety on the occasion of annual sub-committee meetings on time (this encounters Albania, Bosnia and Herzegovina, Kosovo, Montenegro, North Macedonia, and Turkey. The sub-committee meeting with Serbia postponed by the EC to 2022). No green light to assess Bosnia and Herzegovina.
100	4.1 Neighbourhood	4.1.4. Manage MediPIET, under the ECDC action on strengthening health security in EU neighbourhood financed by the European Commission	Annual meeting of steering committee	Implemented	Since June 2021 ECDC is officially responsible for the management of MediPIET
101	4.1 Neighbourhood	4.1.4. Manage MediPIET, under the ECDC action on strengthening health security in EU neighbourhood financed by the European Commission	Fourth Cohort of MediPIET, selected and training started, with on the job projects and modules implemented	Implemented	On 7 June, Kick off meeting with MediPIET NFP (under nomination by MOH, with support of respective EU Delegations) Cohort 4 to be selected in Q3 to start IC in Sept/Oct 2021 Cohort 4 is selected with 16 onboard. The cohort started on time in September
102	4.2 Major CDCs	4.2.1. Strengthen the bilateral and multilateral collaboration with major CDCs for which cooperation agreements are signed and with potential new bilateral cooperation partners	Cooperation with CDCs having formal bilateral arrangements with ECDC (MoU, administrative arrangements) evaluated Joint Action Plans, based on the MoUs	On schedule On schedule	This project will be implemented in December 2021-June 2022
103	4.2 Major CDCs	4.2.1. Strengthen the bilateral and multilateral collaboration with major CDCs for which cooperation agreements are signed and with potential new bilateral cooperation partners	Establishment of processes and procedures for the rapid exchange of information in outbreak situations explored and taken forward	On schedule	The proposal of this output will be part of the evaluation project that will be implemented in December 2021-June2022

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No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
104	4.2 Major CDCs	4.2.1. Strengthen the bilateral and multilateral collaboration with major CDCs for which cooperation agreements are signed and with potential new bilateral cooperation partners	Regular exchange of information and practices through face- to-face meetings and teleconferences	Implemented	
105	4.2 Major CDCs	4.2.2. Evaluation and consolidation of cooperation within the network of major CDCs and expansion of the network	Regular exchange of information and practices through face- to-face meetings or teleconferences	Implemented	
106	4.2 Major CDCs	4.2.2. Evaluation and consolidation of cooperation within the network of major CDCs and expansion of the network	Assessment of the added value of multilateral collaboration among major CDCs	On schedule	This output will be part of the evaluation project that will be implemented in December 2021-June 2022
107	4.2 Major CDCs	4.2.2. Evaluation and consolidation of cooperation within the network of major CDCs and expansion of the network	Consolidation and further expansion of the Network to other CDCs explored	On schedule	This output will be part of the evaluation project that will be implemented in December 2021-June 2022
108	4.2 Major CDCs	4.2.2. Evaluation and consolidation of cooperation within the network of major CDCs and expansion of the network	Good practices/control options in outbreak situations or approaches in the prevention and control of infectious diseases threats identified	Not started	This output will be part of the evaluation project that will be implemented in December 2021-June 2022
109	4.2 Major CDCs	4.2.3. Initiate the implementation of a technical partnership project 'ECDC4Africa CDC' to contribute to health security in Africa by sharing EU practices and strengthening Africa CDC capacities in preparedness, surveillance, and response to health threats	Agreed cooperation framework between ECDC and Africa CDC for implementation of technical partnership over defined period of time	On schedule	Project Steering Committee established, technical discussions on priorities started; inception phase planning ongoing, four independent external experts to support mapping of opportunities and needs contracted for activities under WP1 and WP3, 75% of project staff recruited (6 out of 8 planned). Workshops to share experiences and methodologies in various technical areas were organised.

No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
110	4.3 Coordination	4.3.1. Nurture the collaboration and coordination with the EU Institutions and bodies particularly the European Commission (Directorate-General for Health and Food Safety, Directorate General for European Civil Protection and Humanitarian Aid Operations, Directorate-General for Neighbourhood and Enlargement Negotiations, DG DEVCO) and the European External Action Service and other EU agencies in particular with the European Food Safety Authority (EFSA) and the European Medicines Agency (EMA)	Enhanced channels of close collaboration for effective coordination and interaction with the European Commission, the, the European Parliament and the Council Secretariat	Implemented	Close collaboration with regular meetings and several hearings have taken place with ECDC and the EU Institutions mentioned in 2021, in particular in relation to the ongoing COVID-19 pandemic and the proposal of a new ECDC mandate
111	4.3 Coordination	4.3.1. Nurture the collaboration and coordination with the EU Institutions and bodies particularly the European Commission (Directorate-General for Health and Food Safety, Directorate General for European Civil Protection and Humanitarian Aid Operations, Directorate-General for Neighbourhood and Enlargement Negotiations, DG DEVCO) and the European External Action Service and other EU agencies in particular with the European Food Safety Authority (EFSA) and the European Medicines Agency (EMA)	Identification of potential areas of collaboration and joint work with other EU Agencies	On schedule	EFVED: on schedule Cal: on schedule

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No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
112	4.3 Coordination	4.3.1. Nurture the collaboration and coordination with the EU Institutions and bodies particularly the European Commission (Directorate-General for Health and Food Safety, DG ECHO, Directorate-General for Neighbourhood and Enlargement Negotiations, DG DEVCO) and the European External Action Service and other EU agencies in particular with the European Food Safety Authority (EFSA) and the European Medicines Agency (EMA)	- Optimisation of ECDC's strategic communication and capacity building to relevant policy stakeholders in the EU Institutions	On schedule	EFVED: on schedule Cal: on schedule
113	4.3 Coordination	4.3.2. Invest in maintaining appropriate relationships with the European Parliament, in particular with the Committee ENVI	ECDC Director's annual exchange of views with the ENVI Committee and hearings before Parliamentary Committees upon request	Implemented	Regular contacts with the ENVI Committee and with individual MEPs are taking place, as well as with other Committees in the European Parliament. The ECDC Director's annual exchange of views took place on 16 March 2021. Several hearings and exchanges of views in the various EP Committees (mainly ENVI) have taken place throughout the COVID-19 pandemic with the ECDC Director and ECDC experts.
114	4.3 Coordination	4.3.2. Invest in maintaining appropriate relationships with the European Parliament, in particular with the Committee ENVI	Provision of scientific opinions as requested by EP	Implemented	ECDC is regularly responding to scientific requests by the EP Committees and individual MEPs
115	4.3 Coordination	4.3.2. Invest in maintaining appropriate relationships with the European Parliament, in particular with the Committee ENVI	Information of ECDC activities and of the Centre's disease specific areas in a format useful for making decisions	On schedule	
116	4.3 Coordination	4.3.3. Enhance further collaboration with WHO to ensure complementarity of actions and avoid duplication of efforts	Reviewed set of processes for joint activities under the bilateral administrative arrangements and finalising the publications agreement	On schedule	
117	4.3 Coordination	4.3.3. Enhance further collaboration with WHO to ensure complementarity of actions and avoid duplication of efforts	- Revision of the Administrative arrangement between ECDC and The WHO Regional Office for Europe	Postponed to 2022	Starting of revision process was approved by ECDC senior management in July. First draft is expected to be ready in March 2022
Strategic objective 5. Transform the organisation to the next generation ECDC					
118	5.1 Integrated management framework	5.1.1. Review and optimise a subset of ECDC key processes	- Library of optimised ECDC key processes - Two key processes re-engineered and digitalised	Postponed 2022	Delayed due to high workload of process owners due to COVID19 pandemic and the foreseen amended mandate of ECDC, as the process landscape will be reviewed in 2022 and optimization and implementation project carried out in the following years.

No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
119	5.1 Integrated management framework	5.1.2. Introduce an integrated management framework (including frameworks for governance, performance management quality management system and internal controls) and a learning culture	Agreed system for instructional documents	Implemented	
120	5.1 Integrated management framework	5.1.2. Introduce an integrated management framework (including frameworks for governance, performance management quality management system and internal controls) and a learning culture	Identified areas for improvement through a gap analysis	Implemented	
121	5.1 Integrated management framework	5.1.2. Introduce an integrated management framework (including frameworks for governance, performance management quality management system and internal controls) and a learning culture	Improved monitoring system	On schedule	Feasibility study on planning and monitoring system finalized and proof of concept studies will take place 2022.
122	5.1 Integrated management framework	5.1.2. Introduce an integrated management framework (including frameworks for governance, performance management quality management system and internal controls) and a learning culture	IT support in place	On schedule	Proof of concept study (POCs) on the planning and monitoring tool ongoing, selection of the tool foreseen mid-2022.
123	5.1 Integrated management framework	5.1.2. Introduce an integrated management framework (including frameworks for governance, performance management quality management system and internal controls) and a learning culture	Baseline for administrative services strategy and goals defined, agreed service levels with clients, and assessment of current services and gap analysis performed	Postponed 2022	
124	5.1 Integrated management framework	5.1.2. Introduce an integrated management framework (including frameworks for governance, performance management quality management system and internal controls) and a learning culture	Learning culture framework introduced to increase the acceptance and use of different assessments (e.g. evaluations, audits, lessons learned etc.)	Postponed 2022	
125	5.1 Integrated management framework	5.1.3. Initiate the implementation of the selected Quality Management system at ECDC	- Gap analysis of ECDC current practices versus the selected standard - Approach for the implementation of the QM standard	Implemented	Implementation plan for the QM is part of the IMF implementation roadmap.

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No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
126	5.1 Integrated management framework	5.1.4. Implement integrated system of Key Performance Indicators to support the achievement of Strategic Objectives	- KPI tree based on ECDC intervention logic - Scorecard concept, with graphical representation of the different levels of reporting. - IT tool to manage multi-annual and annual KPIs.	Postponed 2022	Postponed to 2022 due to foreseen amended mandate of ECDC.
127	5.1 Integrated management framework	5.1.5. Gradual implementation of the roadmap for the IT Integrated Management Systems	Document describing the applications architectural roadmap for integrated steering and support systems at ECDC	Implemented	The Roadmap approved and its implementation has commenced.
128	5.2 Engaged staff	5.2.1. Transform human resources management and provide effective and efficient Human Resources services	Skills gaps analysis supporting the strategy 2021-2027 with specific focus on the expert competencies finalised (to be used for recruitment and training plans)	Delayed	Project kicked-off in Q4/2021 and will be finalized in 2022.
129	5.2 Engaged staff	5.2.1. Transform human resources management and provide effective and efficient Human Resources services	Management training as well as targeted management coaching to support the development of the concept management by objectives	Implemented	Management training as well as coaching were in place and offered throughout the year.
130	5.2 Engaged staff	5.2.1. Transform human resources management and provide effective and efficient Human Resources services	Internal mobility framework taking into account the Centre's strategic priorities, staff development and the applicable regulatory context.	Postponed 2022	Project will be part of the "People Strategy" and commenced in 2022.
131	5.2 Engaged staff	5.2.1. Transform human resources management and provide effective and efficient Human Resources services	Stress Prevention Programme – further activities accomplished to build up staff resilience in view of the Next Generation ECDC (linked to new strategy)	Implemented	Continuation of the activities that commenced in 2020 throughout 2021
132	5.2 Engaged staff	5.2.1. Transform human resources management and provide effective and efficient Human Resources services	Timely adoption of new implementing rules	Implemented	The Commission did not adopt any new implementing rules in 2021.
133	5.3 Stakeholders and external communication	5.3.1. Develop a comprehensive stakeholder engagement programme to identify, engage and mobilise institutional and non-institutional stakeholders	Stakeholder Engagement Programme	Postponed to 2022-2023	Project initiation request ready, including timelines, milestones and specific deliverables. This work is planned for 2022-2024.
134	5.3 Stakeholders and external communication	5.3.2. Improve and further develop ECDC online presence strategically, ensuring that the content on its main website and its sub-sites is driven by audience-oriented content strategy, improving the transparency, visibility and availability of ECDC outputs	Improved ECDC website	On schedule	Continuous work enhancing our website, ensuring that it is audience-oriented and that our outputs are available in a clear and transparent way.

No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
135	5.3 Stakeholders and external communication	5.3.3. ECDC will redefine and enhance its social media presence and engagement	Enhanced Social Media presence, activities and engagement	Implemented	Continued increase of social media impact, focusing on KPIs related to engagement and followers/likes.
136	5.3 Stakeholders and external communication	5.3.3. ECDC will redefine and enhance its social media presence and engagement	Rise of the ECDC brand knowledge, familiarity and reliability	Implemented	Continuous work towards a more homogeneous brand in our communication outputs, following feedback from different stakeholder groups.
137	5.3 Stakeholders and external communication	5.3.3. ECDC will redefine and enhance its social media presence and engagement	Recognition of ECDC's communication online and offline	Implemented	Continuous work towards a more homogeneous brand in our communication outputs, following feedback from different stakeholder groups.
138	5.3 Stakeholders and external communication	5.3.3. ECDC will redefine and enhance its social media presence and engagement	Production of multimedia content	Implemented	Increased production of videos, infographics and images aimed at making information more understandable and at increasing the outreach towards our target audiences.
139	5.3 Stakeholders and external communication	5.3.4. Develop and implement a Public relations plan to foster ECDC's reputation management	Public relation plan developed	Postponed 2022	The start of the project has been postponed to 2022. Actions to put in place a call for tender for the full project are in progress.
140	5.3 Stakeholders and external communication	5.3.5. Maintain and enhance the cooperation with key stakeholders at the EU-level, including relations with our host country	Session organised by ECDC at the European Health Forum Gastein 2021	Implemented	ECDC's session at the EHFG focussed on the importance of community engagement in light of the ongoing COVID-19 pandemic took place on 28 September 2021. Feedback from participants was very positive. An ECDC podcast was also produced on the topic.
141	5.3 Stakeholders and external communication	5.3.5. Maintain and enhance the cooperation with key stakeholders at the EU-level, including relations with our host country	Liaison and actions as per the agreement regarding strategic co-operation between ECDC and the Swedish Government, including sharing of experiences, and expertise with the Swedish authorities	Implemented	A webinar on EU's vaccine strategy took place in the House of Europe on 4 May 2021 with the ECDC Director in the panel. The session was organised by the European Commission Representation in Sweden and Paneuropa Sweden. A visit to ECDC by the new Head of European Commission Representation in Sweden took place on 29 November 2021. Regular contacts are taking place with the liaison at the Swedish Ministry of Health and the contact person in EICS at ECDC.
6. Support services					
142	6.1 Digital Transformation Services	6.1.1. ECDC supports public health by providing digital solutions for the Commission, Member States and other stakeholders. In addition, the Centre's operations are enabled with the necessary digital solutions for the steering and support of the Next Generation ECDC.	New IT solutions and further development of IT products (incl. takeover of the EFGS)	Implemented	Procurement for digital solutions further development 2022 is in progress (initial offer has been received). Enterprise Content Management Platform, PHE Intranet procurement has been completed and developments are in progress. EFGS takeover is in progress. The MoU between Directorate-General for Health and Food Safety, DG CNECT, DG DIGIT and ECDC is in the signature loop and procurement for external services under preparation. An internal team has been working on the takeover activities aiming to complete takeover by end of March 2022.

No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
143	6.1 Digital Transformation Services	6.1.1. ECDC supports public health by providing digital solutions for the Commission, Member States and other stakeholders. In addition, the Centre's operations are enabled with the necessary digital solutions for the steering and support of the Next Generation ECDC.	IT product basic maintenance	Implemented	All IT Products and systems have been maintained during 2021.
144	6.1 Digital Transformation Services	6.1.1. ECDC supports public health by providing digital solutions for the Commission, Member States and other stakeholders. In addition, the Centre's operations are enabled with the necessary digital solutions for the steering and support of the Next Generation ECDC.	IT quality, PMO, enterprise architecture and IT security services are provided with high quality	Implemented	The IT quality, PMO, Enterprise Architecture and IT security services have been provided with high quality, despite the challenges in 2021 related to the lack of IT Quality Management Officer.
145	6.1 Digital Transformation Services	6.1.2. ECDC provides its staff with a digital workplace that addresses the needs for mobility, flexibility, communication and collaboration. Users can easily access the IT services they need via the front-office or self-service	Continuation of O365 rollout, including OneDrive and Exchange online	Implemented	Data Protection Impact Assessment (DPIA) for Office 365 finalized. Migration to Exchange Online and Onedrive has been completed.
146	6.1 Digital Transformation Services	6.1.3. Prepare ECDC for the future through technology foresight and innovation	IT studies and advice	Implemented	Studies relevant to the IceCube project such as those for the new planning and monitoring system have been completed. The study on the low code/ workflow development platform has been completed. The study on Country Support tool has been completed. Moreover, additional studies for new IT solutions and further improvements have been completed (more than 12 studies in total).
147	6.1 Digital Transformation Services	6.1.4. ECDC continuously improves its digital infrastructure so that its critical systems fulfil business needs.	Completion of a feasibility study for the review of ECDC Identity and Access Management	Implemented	An IAM Feasibility Study has been finalised resulting in a new target architecture and an associated high level implementation roadmap covering the period 2022-2024.
148	6.1 Digital Transformation Services	6.1.4. ECDC continuously improves its digital infrastructure so that its critical systems fulfil business needs.	Initiation of the implementation of an Information Security Management System	Implemented	Three groups of risk assessments on specific products were concluded and presented to the Director and the Director Consultation Group for approval on the "Microsoft 365 cloud security risks" as part of the ISMS project: 1. MS 365 core: fundamental services required to run the Microsoft 365 cloud services. 2. MS 365 applications: business applications required by ECDC to run its normal business. 3. Communication tools: cooperation and communication services among ECDC staff and its stakeholders. The project scope for 2021 was delivered in accordance with the plan. The project itself will continue in 2022 and beyond.

No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
149	6.1 Digital Transformation Services	6.1.4. ECDC continuously improves its digital infrastructure so that its critical systems fulfil business needs.	IT operations and infrastructure services	Implemented	The Centre's activities have been supported and enabled by digital workplace, enterprise infrastructure and IT security services during 2021.
150	6.2 Resource management	6.2.1. Provide effective and efficient Procurement services	All internal procurement approvals paperless (including contract signature)	Implemented	Internal decisions have been moved to embedded e-workflows using word and excel as per the Administrative Decision on temporary measures to allow for paperless routing and approval of documents due to the COVID-19 outbreak. Administrative Decision is being prepared and will be finalised during Q1/2002. Qualified Electronic Signature (QES) is used by AOs and AODs for replacing the blue ink signature on reciprocal legal documents such as contracts and amendments.
151	6.2 Resource management	6.2.1. Provide effective and efficient Procurement services	Number of negotiated procedures/direct contracts reduced	Delayed	Due to competing work priorities, ECDC was unable to perform an assessment of how and where to reduce procedures.
152	6.2 Resource management	6.2.2. Provide effective and efficient Legal services	Legal Intranet page with key information available	Delayed	The project has started and will be finalized in 2022.
153	6.2 Resource management	6.2.2. Provide effective and efficient Legal services	Update existing Memoranda of Understanding (MoU) with other Agencies to comprehensively regulate areas of cooperation	Ongoing	Collection and review of all third-party agreements is an ongoing task, and the agreements are updated together with partners as and when required.
154	6.2 Resource management	6.2.2. Provide effective and efficient Legal services	Full compliance and establishment of routines for the implementation of the new Independence Policy for Staff	Delayed	The Policy has been approved and will be implemented through revised routines in 2022.
155	6.2 Resource management	6.2.2. Provide effective and efficient Legal services	Development of an effective ex-post control strategy for the application of the Independence Policy and the Data Protection Regulation and dissemination of the results in the Technology watch reports	Delayed	Delayed due to IT delays
156	6.2 Resource management	6.2.3. Provide effective and efficient Corporate services	- Define a corporate services strategy or framework that aligns the Corporate Services structure and framework of services with ECDC long-term plan for enhancing efficiency and effectiveness.	Delayed	The project to define the future strategy for Corporate Services commenced in Q4/2021 and is planned to be concluded end of Q2/2022.
157	6.2 Resource management	6.2.3. Provide effective and efficient Corporate services	Establish service level agreements for facilities management services;	Delayed	Service levels to be developed as part of the new contract for works and maintenance activities in 2022.
158	6.2 Resource management	6.2.3. Provide effective and efficient Corporate services	Improve efficiency of registration of travel participants to ECDC events;	On schedule	Physical meetings will resume in 2022.
159	6.2 Resource management	6.2.3. Provide effective and efficient Corporate services	Reduce ECDC environmental footprint according to set objectives;	On schedule	EMAS certification project on-going. Interinstitutional contract to be established in 2022 to cover offsetting of Co2 emissions

No.	Action Area	SPD Objective	Expected outputs 2021	Status	Comments
160	6.2 Resource management	6.2.3. Provide effective and efficient Corporate services	Develop building analytics, intelligent buildings and remote monitoring;	Postponed 2022	Activity was moved to 2022 due to other priorities
161	6.2 Resource management	6.2.3. Provide effective and efficient Corporate services	Increase the digitalisation of mailroom and archives.	On schedule	Upgrade of the mail IT tools underway
162	6.2 Resource management	6.2.4. Provide effective and efficient Financial Management services	Consolidation of the use of electronic commitments in Speedwell;	Implemented	Commencing in June 2021, ECDC gradually moved all budgetary commitments for processing into Speedwell
163	6.2 Resource management	6.2.4. Provide effective and efficient Financial Management services	Further on-boarding suppliers into e-invoicing;	Implemented	New suppliers on boarded when contracted by ECDC – recurring process
164	6.2 Resource management	6.2.4. Provide effective and efficient Financial Management services	Enhance the financial reporting, forecasting and monitoring of the budget implementation throughout the Centre	Implemented	*First Supplementary and Amending Budget 2021 approved by Management Board * Second Supplementary and Amending budget 2021 approved by Management Board through written procedure 05/2021 * Monthly implementation report presented to the Director Consultation Group *Provisional annual accounts 2020 delivered on 1 March 2021 and audited by external audit firm from 25-30 March 2021 * Third Supplementary and Amending budget 2021 approved by Management Board during June 2021 meeting (MB52/05) * Final annual accounts 2020 drawn up and submitted to EC, EP and Council * Court of Auditors report 2020 on Agencies and in particular on ECDC published on 29 October 2021
165	6.2 Resource management	6.2.4. Provide effective and efficient Financial Management services	Further support and monitor the decrease of payment delays throughout the Centre	Implemented	Payments monitored as part of the monthly implementation report presented to the Director Consultation Group, with an overall achievement of 98% invoices paid on time in 2021

Annex 2. Statistics on financial management

Budget outturn (in EUR)	2019	2020	2021
Revenue actually received (+)	60 316 000	70 708 000	172 749 000
Payments made (-)	48 441 000	47 139 000	109 153 000
Carry-over of appropriations (-)	11 671 000	22 533 000	71 428 000
Cancellation of appropriations carried over (+)	880 000	1 155 000	1 025 000
Adjustment for carry-over of assigned revenue appropriations from previous year (+)	259 000	1 118 000	9 089 000
Exchange rate differences (+/-)	+126 000	-238 000	-543 000
Adjustment for negative balance from previous year (-)			
Total	1 469 000	3 071 000	1 739 000

Descriptive information and justification of:

Budget outturn

First estimate of the 2021 surplus to be reimbursed to the EU budget (as assigned revenue): EUR 1 739 880.22.

The Centre cashed its budget of EUR 168 115 000 in 2021.

The expenditure of 2021, including the carry-forward to 2022, equals to EUR 180 582 255.98.

The amount of cancelled unused payment appropriations carried forward from previous year (2020) of EUR 1 025 247.08, the adjustment for carry-over from the previous year of appropriations available at 31/12 arising from assigned revenue of

EUR 9 089 576.87 and the exchange rate loss for the year 2021 of EUR -542 570.47 have resulted in a positive budget outturn in 2021.

In 2021, ECDC reimbursed the budgetary positive balance from 2020 of EUR 3 071 478.28 to the EU.

As a result of the above, EUR 1 739 880.22 will be reimbursed during 2022 to the EU budget (as assigned revenue) related to the Centre's 2021 budget implementation.

Cancellation of commitment appropriations

The total implementation of commitment appropriations in 2021 reached 99.35% with a total of EUR 1 085 863.33 cancelled, compared to EUR 2 016 923.65 cancelled in 2020. As a result, the reductions of the EU contribution of 2% for the implementation of commitment appropriations and 2% for the cancellation of payment appropriations are not applicable for the 2023 budget of ECDC. The commitment of appropriations for the operational expenditure on Title 3 reached 99.69% in 2021.

Cancellation of payment appropriations for the year and payment appropriations carried over

The Centre carried forward EUR 13 500 266 from 2020 to 2021, of which EUR 12 475 019 was paid (fund source C8).

This corresponds to 92.41% of the amount carried forward.

Report on budget and financial management 2021 of the European Centre for Disease Prevention and Control.

For details, see: https://ecdc.europa.eu/en/about-usour-key-documents/financial-documents

Annex 3. Organisational chart
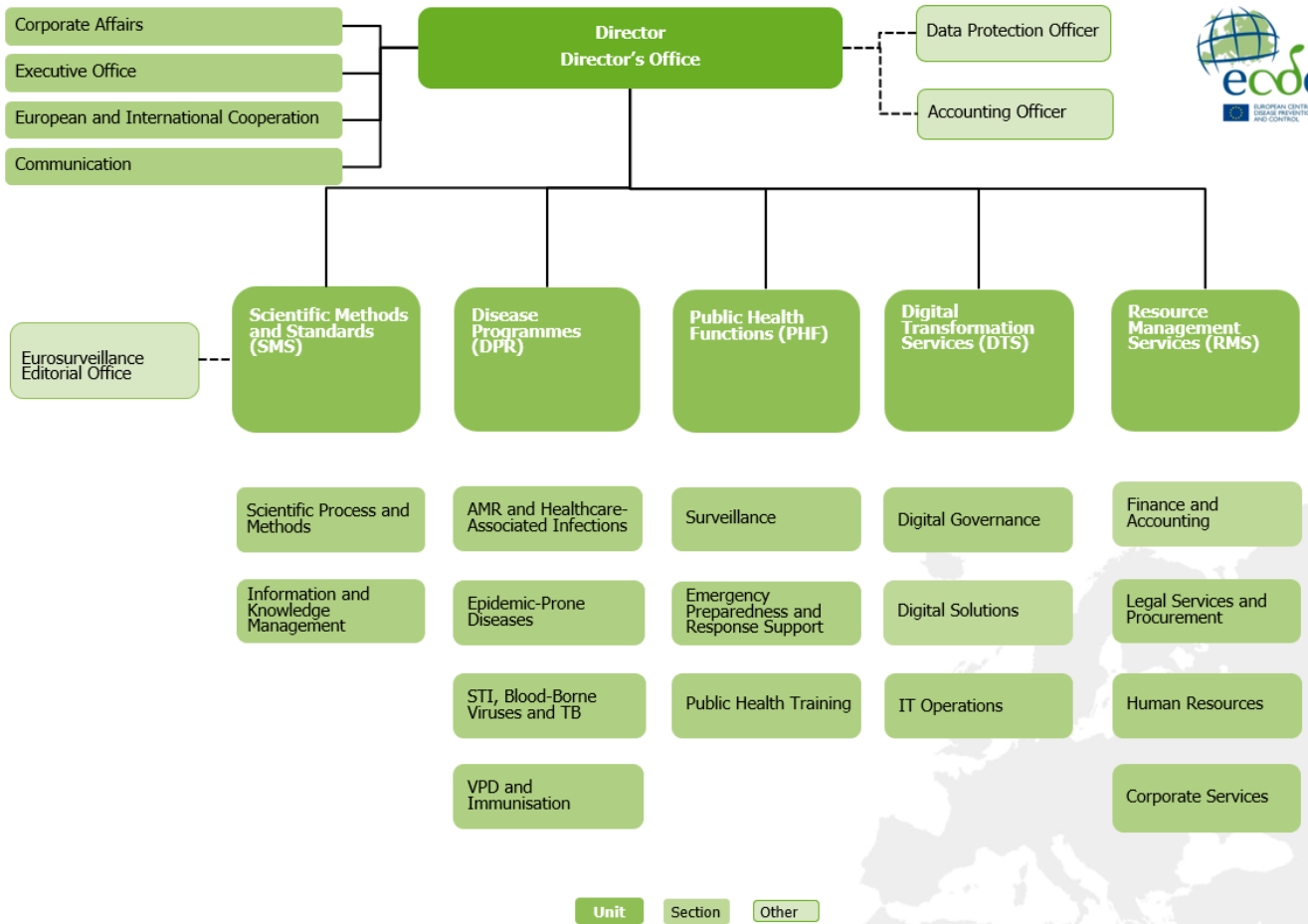
Annex 4. Establishment plan and additional information on human resources management

ECDC establishment table 2021

Category and grade	Establishment plan in voted EU budget 2021	
	Officials	**TA**
AD 16		
AD 15		1
AD 14		2
AD 13		3
AD 12		7
AD 11		8
AD 10		25
AD 9		24
AD 8		24
AD 7		29
AD 6		18
AD 5		3
Total AD		**144**
AST 11		
AST 10		1
AST 9		2
AST 8		3
AST 7		11
AST 6		10
AST 5		15
AST 4		10
AST 3		7
AST 2		
AST 1		
Total AST		**59**
AST/SC6		
AST/SC5		
AST/SC4		
AST/SC3		5
AST/SC2		
AST/SC1		
Total AST/SC		**5**
		208

Recruitment grade/function group for each type of post - indicative table

Key functions (examples – terminology should be adjusted to each agency's job titles)	Type of contract (official, TA or CA)	Function group, grade of recruitment*	Indication whether the function is dedicated to administrative support or operations [subject to definitions used in screening methodology]
Head of Unit (level 2)	TA	AD 11/ AD 12	Depending on function: operational or administrative
Deputy Head of Unit (level 3)	TA	AD 10	Depending on function: operational or administrative
Head of Section (level 3)	TA	AD 8	Depending on function: operational or administrative/ neutral
Principal Expert	TA	AD 8	operational
Expert	TA	AD 5	operational
Scientific Officer	CA	FG IV	operational
Administration (e.g. HR, Procurement/ Finance)/ IT Officers	TA	AST 4	Depending on function: operational or administrative/ neutral
Officers in support functions (e.g. Communication, IT, Legal)	CA	FG IV	Depending on function: operational or administrative/ neutral
Assistants/ Specialists in support functions (e.g. HR, Finance, Procurement, IT)	CA	FG III	Depending on function: operational or administrative/ neutral
Administrative Assistants	TA	AST/SC 1	Depending on function: operational or administrative
Office Assistants	CA	FG II	Depending on function: operational or administrative

Job screening/benchmarking against previous year results[1]

Job Type (sub) category	Year N-1 (%)	Year N (%)
Administrative support and Coordination	**16.2**	**14.5**
Administrative Support	14.5	13.6
Coordination	1.6	0.9
Operational	**77.8**	**78.4**
Top level Operational Coordination	2.8	3.3
Programme management and Implementation	65.8	66.0
Evaluation & Impact assessment	0.0	0.0
General operational	9.3	9.1
Neutral	**6.0**	**7.1**
Finance/ Control	6.0	7.1
Linguistics	0.0	0.0

Implementing rules adopted in 2021

Management Board Decisions on Implementing Rules
None

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[1] Table as per Methodology for Agencies job screening (2014)

Annex 5. Human and financial resources by activity

The activity-based costing provides an overview of human and financial resources used by activity in 2021. It reflects the structure of the presentation of the Consolidated Annual Activity Report. ECDC staff members record their working time per activity in the Human Resources system Allegro, reflected in the first column (Total FTE). The column 'Administrative staff' reflects the administrative support for operations, considered as operational work following the benchmarking exercise (see also *Annex IV*).

Strategic objective / Action Area	Total FTE	Admin sta CAs	TAs	Title 1	Title 2	Tilte 3	Total Budget
⊟1. Strenghten and apply scientific excellence	60.0	13.3	21.4	34.4	6 026 192	1 082 145	19 386 816	26 495 152
⊞1.0 Management	1.7	0.4	0.0	1.7	308 474	23 428		331 902
⊞1.1 Standards	4.3	1.0	1.6	2.0	299 361	58 510		357 871
⊞1.2 Evidence	32.8	7.4	7.1	22.3	3 480 576	443 756	18 581 020	22 505 352
⊞1.3 Methodologies	0.6	0.1	0.0	0.6	76 436	259 546		335 982
⊞1.4 Knowledge transfer	20.7	4.4	12.7	7.8	1 861 345	296 904	805 796	2 964 045
⊟2. Support the countries to strenghten their capacities and capabilities	103.7	23.0	28.8	64.1	11 007 864	1 404 599	93 232 932	105 645 395
⊞2.0 Management	2.0	0.5	0.0	2.0	357 617	27 160		384 778
⊞2.1 Country focus	3.7	0.8	1.5	2.2	413 687	50 247	310 974	774 908
⊞2.2 Prevention and control programmes	37.5	8.5	10.1	24.2	3 906 141	507 434	90 011 971	94 425 546
⊞2.3 Training	13.3	3.0	3.5	6.4	1 094 116	180 150	2 105 383	3 379 649
⊞2.4 Emergency preparedness	47.2	10.2	13.6	29.2	5 236 303	639 608	804 604	6 680 514
⊟3. Future outlook	9.1	2.0	2.8	6.2	1 013 643	123 044	1 576 794	2 713 480
⊞3.0 Management	1.0	0.2	0.0	1.0	174 194	13 230		187 424
⊞3.1 Foresight	0.1	0.0	0.0	0.1	14 491	1 746	712 425	728 662
⊞3.2 Engage	0.4	0.1	0.0	0.4	48 327	5 788		54 115
⊞3.3 Support transformation	7.5	1.7	2.8	4.7	776 630	102 280	864 369	1 743 279
⊟4. Increase EU health security through cooperation with non EU partners	10.1	2.3	4.1	6.0	1 090 628	136 685	50 825	1 278 138
⊞4.0 Management	0.3	0.1	0.0	0.3	57 357	4 356		61 713
⊞4.1 Neighbourhood	4.2	0.9	1.9	2.2	428 918	56 442		485 361
⊞4.2 Major CDCs	2.6	0.6	0.9	1.7	279 182	34 622	50 825	364 630
⊞4.3 Coordination	3.0	0.7	1.3	1.8	325 170	41 264		366 434
⊟5. Transform the organisation	15.3	0.0	4.0	10.1	1 539 371	739 433	478 014	2 756 818
⊞5.0 Management	1.4	0.0	1.0	0.4	156 407	19 136		175 543
⊞5.1 Integrated management framework	1.0	0.0	0.0	1.0	185 417	545 914		731 331
⊞5.2 Engaged staff	11.5	0.0	2.3	8.0	1 059 364	155 405		1 214 769
⊞5.3 Stakeholders and external communication	1.4	0.0	0.7	0.7	138 183	18 978	478 014	635 175
⊟6. Support services	16.8	0.0	4.6	6.9	1 257 071	3 244 021	6 389 742	10 890 835
⊞6.0 Management	0.6	0.0	0.0	0.6	110 641	8 129		118 769
⊞6.1 Digital Transformation Services	7.6	0.0	3.1	3.2	652 511	2 959 842	6 389 742	10 002 095
⊞6.2 Resource management	8.6	0.0	1.5	3.1	493 920	276 050		769 970
⊟8. Generic actions	26.9	5.8	7.2	17.0	2 773 945	364 968		3 138 913
⊞0.0 Generic actions not related to core work	26.9	5.8	7.2	17.0	2 773 945	364 968		3 138 913
⊟9. Benchmarking	24.9	0.0	13.3	8.3	2 074 015	337 843		2 411 858
⊞9.0 Neutral category as per Benchmarking Methodology	24.9	0.0	13.3	8.3	2 074 015	337 843		2 411 858
Grand Total	266.9	46.4	86.2	153.2	26 782 729	7 432 738	121 115 122	155 330 590
Time not worked or not reported ★	84.1				10 580 139	1 139 103		11 719 241
Total	351.0		138.0	208.0	37 362 868	8 571 841	121 115 122	167 049 831

★
This line reflects time underreported by staff, sick leave, medical part-time, part-time work, parental leave

Annex 6. Contribution, grant and service level agreements - Financial Framework Partnership Agreements

	General Information					Financial and HR impacts		
	Actual or Expected date of signature	**Total amount**	**Duration**	**Counterpart**	**Short Description**		**N-1 (2020)**	**N (2021)**
Grant Agreements								
1. ERLTB-Net	Framework Partnership Agreement signed in 2018	200 000 EUR/year	4 years	Consortium led by Ospedale San Raffaele	Implementation of lab coordination activities, including lab network coordination, EQA, training, strain collection, typing, scientific advice & technical guidance on lab issues as well as methods harmonisation and network meeting.	Amount	199 981 EUR	199 969 EUR
						Nr of FTEs	0.15	0.20
						Nr of SNEs		
2. Scientific coordination of ECDC Fellowship Programme	Framework Partnership Agreements signed in 2020	575 000 EUR/year	4 Years	12 specific agreements with different public health institutes over the period of two years	Scientific Coordination of ECDC Fellowship Programme (Epidemiology (EPIET) and Public Health Microbiology (EUPHEM) paths). To ensure the availability of highly qualified scientific coordinators for the Fellowship programme.	Amount	495 274 EUR	233 909 EUR
						Nr of FTEs	3.08	2.41
						Nr of SNEs		
3. ECDC Fellowship Programme: hosting of fellows	Framework Partnership Agreements signed in 2019, 2020 and 2021	1 950 000 EUR/year	4 Years	39 specific agreements (for hosting cohorts 2019, 2020 and 2021) with different public health institutes	ECDC Fellowship Programme (Epidemiology (EPIET) and Public Health Microbiology (EUPHEM) paths) hosting of fellows at Training Sites.	Amount	1 777 738 EUR	1 675 984 EUR
						Nr of FTEs	1.04	1.16
						Nr of SNEs		
4. Action Grants for enhancing WGS and/or Reverse Transcription Polymerase Chain Reaction (RT-PCR) national infrastructures and capacities to respond to the COVID-19 pandemic in the European Union and European Economic Area	Direct grant agreements, Action Grants without a call for proposal	77 087 704 EUR for 2021	1 Year	24 grants to National Public Health Authorities from EU and EEA Member States	Supporting activities via the award of grants for action that directly lead to enhanced and/or improved national public health WGS and RT-PCR capacity	Amount	n/a	77 087 704 EUR
						Nr of FTEs	n/a	3
						Nr of SNEs		
Total grant agreements						**Amount**	**2 472 993 EUR**	**79 197 566 EUR**
						Nr of FTEs	**4.27**	**6.77**
Contribution Agreements								
None						Amount		
						Nr of FTEs		
						Nr of SNEs		
Total contribution agreements						Amount		
						Nr of FTEs		
						Nr of SNEs		

Service-Level Agreements								
None						Amount		
						Nr of FTEs		
						Nr of SNEs		
Total service-level agreements						Amount		
						Nr of FTEs		
						Nr of SNEs		
Contribution Agreements where ECDC is recipient of funds								
IPA6 Contribution agreement	10 December 2019	2 500 000 EUR	5 years		Preparatory measures for the participation of the Western Balkans and Turkey in ECDC with special focus on One-Health against AMR and enhanced SARI surveillance, 2020-2024	Amount	2 042 EUR	583 467 EUR
						Nr of FTEs	0.6	0.52
						Nr of SNEs		
ECDC4Africa CDC Contribution agreement	19 October 2020	9 000 000 EUR	4 years		The ECDC for Africa CDC action aims to: · Strengthen capacities of Africa CDC in preparedness, risk assessment, rapid response, and emergency operations. · Improve continental harmonised indicator- and event-based surveillance of infectious diseases, including platforms for data sharing and early detection of threats as well as foundations for sustainable trained public health workforce.	Amount	0 EUR	242 644 EUR
						Nr of FTEs	0.21	3.31
						Nr of SNEs		
EU Initiative on Health Security Contribution agreement	18 December 2020	9 000 000 EUR	4 years		The EU Initiative on Health Security aims to set up a regional competent workforce for the prevention and control of challenges posed by communicable diseases and to enhance regional cooperation to tackle cross-border health security threats in EU candidate and potential candidates (EU Enlargement) countries and European Neighbourhood Policy (ENP) partner countries.	Amount	900 EUR	1 227 699 EUR
						Nr of FTEs	1.27	3.52
						Nr of SNEs		
Total Contribution Agreements where ECDC is recipient of funds						**Amount**	**2 942 EUR**	**2 053 810 EUR**
						Nr of FTEs	**2.08**	**7.35**

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Annex 7. Environmental management

ECDC measures to ensure cost-effective and environment-friendly working place

ECDC premises are environmentally certified as a 'Green building' since 2018. In December 2020, the ECDC building received the environmental certification 'BREEAM Very Good'. Building Research Establishment Environmental Assessment Method (BREEAM) is the world's leading sustainability assessment method for master planning projects, infrastructure, and buildings.

ECDC started the implementation of EMAS in October 2019, when ECDC performed its first environmental assessment. In 2021, ECDC has from then on subsequently worked on achieving EMAS certification. The environmental assessment established that travel related to missions, meetings, recruitment, and trainings represented the major source of CO_2 emissions for ECDC. Due to the COVID-19 pandemic, and the reduction of staff missions and meetings, ECDC CO_2 emissions related to travels were reduced to a non-relevant environmental significance factor in 2021.

ECDC measures to reduce the environmental impact of its operations

In 2021, 100% of the ECDC electricity continued to be provided by hydro powered energy. The ECDC premises are equipped with energy-efficient glass windows optimising daylight admission and reducing solar heat. Light sources are mostly of LED with occupancy sensors and daylight control systems. In 2021, ECDC introduced touchless taps helping to reduce up to 70% of the water consumption.

ECDC continues to improve its new recycling system, with separation of waste into paper, plastic, glass, organic, metal, e-waste, toners, light and bulbs, batteries, corrugated cardboard and boxes. In addition, ECDC requests from some of its suppliers to provide environmentally friendly documentation and purchases eco-labelled products (such as stationery and cleaning detergents).

To reduce the environmental impact of transport, ECDC encourages its staff to use sustainable ways of commuting by providing facilities for bicycles and encouraging use of good connections by public transport. Moreover, videoconferencing is encouraged to limit the environmental impact of missions.

ECDC environmental objectives

As an agency of the European Union, ECDC recognises its responsibility towards the environment and the importance of implementation of measures to control and lower the environmental impact of its operations. In the year 2021, the agency continued its efforts towards a more environmentally friendly profile, focusing on selected areas for further improvement.

Annex 8. Final annual accounts 2021

See final annual accounts 2021 and report on budget and financial management 2021 of the European Centre for Disease Prevention and Control (MB document MB55/06).

For details, see: https://ecdc.europa.eu/en/about-usour-key-documents/financial-documents

Annex 9. ECDC MB/AF/Coordinating Competent Bodies

Members and Alternates of the ECDC Management Board

Austria	Dr Sigrid Kiermayr[1]	Member
	Nomination pending	Alternate
Belgium	Mr Lieven De Raedt	Member
	Dr Dirk Wildemeersch[2]	Alternate
Bulgaria	Dr Angel Kunchev	Member
	Ms Nataliya Spiridonova	Alternate
Croatia	Dr Bernard Kaić	Member
	Assistant Professor Krunoslav Capak	Alternate
Cyprus	Dr Irene Cotter	Member
	Ms Maroussa Konnari Jeronymides	Alternate
Czechia	Dr Jozef Dlhý[3]	Member
	Nomination pending	Alternate
Denmark	Ms Bolette Søborg	Member
	Ms Stine Ulendorf Jacobsen	Alternate
Estonia	Ms Heli Laarmann	Member
	Ms Mari-Anne Härma	Alternate
Finland	Dr Anni-Riitta Virolainen-Julkunen	Member
	Dr Taneli Puumalainen	Alternate
France	Professor Geneviève Chêne	Member
	Ms Anne-Catherine Viso	Alternate
Germany	Dr Hans-Ulrich Holtherm	Member
	Dr Gesa Lücking	Alternate
Greece	Professor Theoklis Zaoutis[4]	Member
	Ms Aggeliki Dreliozi	Alternate
Hungary	Ms Ágnes Dánielisz	Member
	Ms Krisztina Biró	Alternate
Ireland	Dr Colette Bonner	Member
	Mr Daniel Shine	Alternate
Italy	Dr Francesco Maraglino	Member
	Dr Sandro Bonfigli	Alternate
Latvia	Ms Jana Feldmane	Member
	Professor Dzintars Mozgis	Alternate
Lithuania	Dr Audrius Ščeponavičius	Member
	Dr Loreta Ašoklienė[5]	Alternate
Luxembourg	Dr Jean-Claude Schmit	Member
	Dr Thomas Dentzer	Alternate
Malta	Dr Patricia Vella Bonanno	Member
	Dr Mariella Borg Buontempo	Alternate
Netherlands	Ms Ciska Scheidel	Member
	Mr Bas Joost Lambert Derks[6]	Alternate
Poland	Mr Dariusz Poznański	Member
	Mr Michał Ilnicki	Alternate
Portugal	Mr Rui Portugal	Member
	Ms Cristina Abreu Santos	Alternate
Romania	Mr Andrei Baciu	Member
	Mr Paul Daniel Iordache	Alternate
Slovakia	Dr Ján Mikas	Member

[1] Appointed Member in replacement of Dr Bernhard Benka as of November 2021

[2] Appointed Alternate in replacement of Dr Carole Schirvel as of February 2021

[3] Appointed Member in replacement of Ms Jarmila Rážová as of June 2021

[4] Appointed Member in replacement of Mr Panagiotis Arkoumaneas as of November 2021

5 Appointed Alternate in replacement of Dr Saulius Čaplinskas as of April 2021

6 Appointed Alternate in replacement of Ms Francine L'Ortye as of December 2021

	Ms Lucia Paulíková[1]	Alternate
Slovenia	Dr Mojca Gobec	Member
	Mr Mario Fafangel	Alternate
Spain	Dr Pilar Aparicio Azcárraga Dr Manuel Cuenca Estrella	Member Alternate
Sweden	Dr Johan Carlson Mr Andreas Johansson	Member Alternate
European Parliament	Ms Zofija Mazej Kukovič Ms Maria Eleni Koppa Mr Antonio Fernando Correia de Campos	Member Member Alternate
European Commission	Mr Pierre Delsaux[2]Mr John F Ryan Ms Isabel de la Mata Barranco Ms Ingrid Keller[3]Ms Barbara Kerstiëns Ms Catherine Berens[4]	Member Member Alternate Alternate Member Alternate
Iceland (EEA/EFTA)	Ms Ásthildur Knútsdóttir Ms Áslaug Einarsdóttir	Member Alternate
Liechtenstein (EEA/EFTA)	Dr Silvia Dehler	Member
Norway (EEA/EFTA)	Mr Øystein Riis Dr Siri Helene Hauge[5]	Member Alternate

Members and Alternates of the ECDC Advisory Forum

Austria	Professor Dr Petra Apfalter	Member
	Dr Bernhard Benka[6]	Alternate
Belgium	Professor Dr Herman Van Oyen	Member
	Dr Koen Blot[7]	Alternate
Bulgaria	Nomination pending	Member
	Dr Radosveta Filipova	Alternate
Croatia	Dr Sanja Kurečić Filipović	Member
	Dr Aleksandar Šimunović	Alternate
Cyprus	Dr Linos Hadjihannas	Member
	Dr Costas Constantinou[8]	Alternate
Czechia	Dr Jan Kynčl	Member
	Dr Kateřina Fabiánová	Alternate
Denmark	Professor Henrik Ullum[9]	Member
	Dr Tyra Grove Krause	Alternate
Estonia	Nomination pending	Member
	Dr Natalia Kerbo	Alternate
Finland	Dr Mika Salminen	Member
	Dr Carita Savolainen-Kopra	Alternate
France	Dr Bruno Coignard[10]	Member
	Ms Isabelle Bonmarin[11]	Alternate
Germany	Dr Osamah Hamouda	Member
	Dr Ute Rexroth[12]	Alternate
Greece	Dr Sotirios Tsiodras	Member
	Dr George Panagiotakopoulos[13]	Alternate
Hungary	Ms Zsuzsanna Molnár	Member
	Ms Ágnes Hajdu	Alternate

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[1] Appointed Alternate in replacement of Mr Peter Zsapka as of October 2021

[2] Appointed Member in replacement of Ms Sandra Gallina as of April 2021

[3] Appointed Alternate in replacement of Mr Wolfgang Philipp as of April 2021

[4] Appointed Alternate in replacement of Dr Karim Berkouk as of April 2021

[5] Appointed Alternate in replacement of Mr Eirik Rødseth Bakka as of February 2021

[6] Appointed Alternate as of October 2021 in replacement of Professor Dr Franz Allerberger

[7] Appointed Alternate as of October 2021 in replacement of Dr Sophie Quoilin

[8] Appointed Alternate as of May 2021 in replacement of Dr Ioanna Gregoriou

[9] Appointed Member as of January 2021 in replacement of Dr Kåre Mølbak

[10] Appointed Member as of March 2021 in replacement of Dr Jean-Claude Desenclos

[11] Appointed Alternate as of March 2021

[12] Appointed Alternate as of March 2021 in replacement of Dr Ole Wichmann

[13] Appointed Alternate as of March 2021

Ireland	Dr Lorraine Doherty	Member
	Dr Derval Igoe	Alternate
Italy	Dr Silvia Declich	Member
	Dr Giuseppe Ippolito	Alternate
Latvia	Dr Jurijs Perevoščikovs	Member
	Nomination pending	Alternate
Lithuania	Ms Jugita Pakalniškienė[1]	Member
	Ms Rolanda Valintėlienė[2]	Alternate
Luxembourg	Dr Isabel De La Fuente Garcia	Member
	Professor Friedrich Muehlschlegel	Alternate
Malta	Dr Charmaine Gauci	Member
	Dr Tanya Melillo Fenech	Alternate
Netherlands	Prof Dr Jaap van Dissel	Member
	Dr Susan van den Hof	Alternate
Poland	Dr Malgorzata Sadkowska-Todys	Member
	Dr Magdalena Rosińska	Alternate
Portugal	Mr Carlos Matias Dias	Member
	Dr Ana Maria Correia	Alternate
Romania	Dr Florin Popovici	Member
	Nomination pending	Alternate
Slovakia	Dr Mária Avdičová	Member
	Professor Henrieta Hudečková	Alternate
Slovenia	Dr Irena Klavs	Member
	Dr Marta Grgič-Vitek	Alternate
Spain	Dr Fernando Simón	Member
	Dr Marina Pollan Santamaria	Alternate
Sweden	Dr Anders Tegnell	Member
	Dr Birgitta Lesko	Alternate

Observers		
Albania (candidate country)	Nomination pending	Member
Iceland (EEA/EFTA)	Dr Thorolfur Gudnason	
Liechtenstein (EEA/EFTA)	Nomination pending	Alternate
	Nomination pending	Member
Montenegro (candidate country)	Nomination pending	Observer
Norway (EEA/EFTA)	Dr Frode Forland	Member
	Dr Line Vold	Alternate
Serbia (candidate country)	Nomination pending	
North Macedonia (candidate country)	Nomination pending	
Turkey (candidate country)	Professor Mustafa Gokhan Gozel[3]	Observer
Non-governmental organisations	Mr Rebecca Moore	Member
European Institute of Women's Health		
European Public Health Association	Dr Aura Timen	Member
Association of Schools of Public Health in the European Region	Mr John Duncan Middleton[4]	Member
European Liver Patients' Association	Mr Marko Korenjak[5]	Alternate
European Society for Blood and Marrow Transplantation	Mr Jose Rafael De la Camara De Llanza[6]	Alternate
Steering Committee AIDS Action Europe	Mr Aigars Ceplitis[7]	Alternate
European Association of Hospital Pharmacists	Ms Inese Sviestina	Alternate

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[1] Appointed Member as of April 2021 in replacement of Dr Loreta Ašoklienė

[2] Appointed Alternate as of April 2021 in replacement of Ms Nerija Kuprevičienė

[3] Appointed Member from January to October 2021, nomination pending

[4] Appointed Member as of July 2021

[5] Appointed Alternate as of July 2021

[6] Appointed Alternate as of July 2021

[7] Alternate from January to July 2021

ECDC Coordinating Competent Bodies

In 2010, ECDC decided to strengthen and simplify its way of working with the Member States. A new process was introduced in 2011 with the nomination of one national Coordinating Competent Body (CCB) in each EU/EEA Member State.

Austria	**Federal Ministry of Social Affairs, Health, Care and Consumer Protection** Radetzkystrasse 2 1031 Vienna http://www.bmg.gv.at +431711004637
Belgium	**Sciensano** Rue Juliette Wytsman 14 1050 Brussels https://www.sciensano.be/en +3226425111
Bulgaria	**National Center of Infectious and Parasitic Diseases** Yanko Sakazov Blvd. 26 1504 Sofia http://www.ncipd.org +35929442875
Croatia	**Croatian Institute of Public Health** Rockefellerova 7 10000 Zagreb http://www.hzjz.hr +38514683010
Cyprus	**Ministry of Health** Directorate Medical and Public Health Services 1 Prodromou 1449 Nicosia http://www.moh.gov.cy +35722605650
Czechia	**National Institute of Public Health** Šrobárova 48 10042 Prague 10 http://www.szu.cz +420267082295
Denmark	**Danish Health Authority** Axel Heides Gade 1 2300 Copenhagen http://sundhedsstyrelsen.dk +4572227400
Estonia	**Health Board** Tartu road 85 10115 Tallinn http://www.terviseamet.ee +3726943500
Finland	**National Institute for Health and Welfare** Mannerheimintie 166 00271 Helsinki http://www.thl.fi +358295246000
France	**French Public Health Agency** 12 rue du Val d'Osne 94415 Saint-Maurice http://www.santepubliquefrance.fr +33141796700
Germany	**Robert Koch Institute** Nordufer 20 13353 Berlin http://www.rki.de +4930187540
Greece	**National Public Health Organization** Agrafon Street 3-5 15123 Marousi https://eody.gov.gr/eody/ +302105212000
Hungary	**National Public Health Center** Albert Flórián út 2-6 1097 Budapest https://www.nnk.gov.hu +3614761100 +3614761279

Iceland	**Centre of Health Security and Communicable Disease Prevention** Austurströnd 5 170 Seltjarnarnes http://www.landlaeknir.is +3545101900
Ireland	**Health Protection Surveillance Centre** 25-27 Middle Gardiner Street Dublin http://www.hpsc.ie +35318765300
Italy	**Ministry of Health** Via Giorgio Ribotta 5 00144 Rome http://www.salute.gov.it +390659946115
Latvia	**Centre for Disease Prevention and Control** Duntes 22 1005 Riga http://spkc.gov.lv +37167501590
Liechtenstein	**Principality of Liechtenstein** Äulestrasse 51 9490 Vaduz http://www.ag.llv.li +4232367334
Lithuania	**Ministry of Health** Vilniaus 33 01506 Vilnius http://www.sam.lt +37052661466
Luxembourg	**Directorate of Health** 13a rue de Bitburg 1273 Luxembourg http://www.ms.public.lu +35224785550
Malta	**Superintendence of Public Health** Ministry for Energy and Health St Luke's Hospital, Pjazza San Luqa MRS9010 Pieta https://deputyprimeminister.gov.mt/en/sph/Pages/Superintendence-of-Public- Health.aspx +35623266109
Netherlands	**National Institute for Public Health and the Environment** Antonie van Leeuwenhoeklaan 9 3720 BA Bilthoven http://www.rivm.nl +31302742767
Norway	**National Institute of Public Health** PO BOX 4404 Nydalen 0403 Oslo http://www.fhi.no +4721077000
Poland	**National Institute of Public Health – National Institute of Hygiene** 24 Chocimska Street 00791 Warsaw http://www.pzh.gov.pl +48228497612
Portugal	**Directorate-General of Health** Ministry of Health Alameda D. Afonso Henriques 45 1049- 005 Lisbon www.dgs.pt +351218430500
Romania	**National Institute of Public Health** Dr Leonte Anastasievici 1-3, Sector 5 050463 Bucharest http://www.insp.gov.ro/ +40213183612
Slovakia	**Public Health Authority of the Slovak Republic** Trnavská cesta 52 82645 Bratislava http://www.uvzsr.sk +421244372906
Slovenia	**National Institute of Public Health** Trubarjeva cesta 2 1000 Ljubljana http://www.nijz.si +38612441400

Spain	**Ministry of Health, Social Services and Equality** Paseo del Prado 18–20, 7 planta 28071 Madrid http://www.msssi.es +34915962062
Sweden	**Public Health Agency of Sweden** Nobels väg 18 17182 Solna http://folkhalsomyndigheten.se/ +46102052000

Annex 10. ECDC outputs published in 2021

Risk assessments

January

Risk Assessment: Risk related to the spread of new SARS-CoV-2 variants of concern in the EU/EEA – first update

February

Risk assessment: SARS-CoV-2 - increased circulation of variants of concern and vaccine rollout in the EU/EEA, 14th update

Risk assessment: Ebola virus disease outbreak in North Kivu, Democratic Republic of the Congo, 2021

Ebola virus disease outbreak in Guinea, 2021

Threat Assessment Brief: First identification of human cases of avian influenza A(H5N8) infection

Multi-country outbreak of Salmonella Enteritidis sequence type (ST)11 infections linked to poultry products in the EU/EEA and the United Kingdom

March

Risk Assessment: Emergence of hypervirulent Klebsiella pneumoniae ST23 carrying carbapenemase genes in EU/EEA countries

May

Threat Assessment Brief: Dengue epidemic in Réunion, 2021

Threat Assessment Brief: Emergence of SARS-CoV-2 B.1.617 variants in India and situation in the EU/EEA

June

Rapid risk assessment: Assessing SARS-CoV-2 circulation, variants of concern, non-pharmaceutical interventions and vaccine rollout in the EU/EEA, 15th update

Threat Assessment Brief: Implications for the EU/EEA on the spread of the SARS-CoV-2 Delta (B.1.617.2) variant of concern

July

Rapid Outbreak Assessment: Multi-country outbreak of Salmonella Braenderup ST22, presumed to be linked to imported melons

Rapid risk assessment: Increase in OXA-244 -producing Escherichia coli in the European Union/European Economic Area and the UK since 2013, first update

Rapid Risk Assessment: COVID-19 outbreaks in long-term care facilities in the EU/EEA in the context of current vaccination coverage

Rapid Risk Assessment: Extreme rainfall and catastrophic floods in western Europe

August

Risk assessment: The risk of variant Creutzfeldt-Jakob disease transmission via blood and plasma-derived medicinal products manufactured from donations obtained in the United Kingdom

September

Rapid Risk Assessment: Assessing SARS-CoV-2 circulation, variants of concern, non-pharmaceutical interventions and vaccine rollout in the EU/EEA, 16th update

October

Rapid Outbreak Assessment: Multi-country outbreak of multiple Salmonella enterica serotypes linked to imported sesame based products

November

Assessment of the current SARS-CoV-2 epidemiological situation in the EU/EEA, projections for the end-of-year festive season and strategies for response, 17th update

Threat Assessment Brief: Implications of the emergence and spread of the SARS-CoV-2 B.1.1. 529 variant of concern (Omicron) for the EU/EEA

December

Threat Assessment Brief: Implications of the further emergence and spread of the SARS-CoV-2 B.1.1.529 variant of concern (Omicron) for the EU/EEA – first update

Assessment of the further emergence of the SARS-CoV-2 Omicron VOC in the context of the ongoing Delta VOC transmission in the EU/EEA, 18th update

Technical reports

January

ECDC rapid assessment of laboratory practices and needs related to COVID-19

February

Integrated COVID-19 response in the vaccination era

Stress test on logistical aspects of COVID-19 vaccination deployment plans: final report

Laboratory standard operating procedure for detecting sporadic Creutzfeldt-Jakob disease using Real-Time Quaking-Induced Conversion (RT-QuIC) assay

Infection prevention and control and preparedness for COVID-19 in healthcare settings - sixth update

European surveillance of COVID-19 in long-term care facilities in the EU/EEA: aggregate data reporting - Surveillance protocol version 1.1

Using face masks in the community: first update - Effectiveness in reducing transmission of COVID-19

Detection and characterisation capability and capacity for SARS-CoV-2 variants within the EU/EEA

Behavioural Insights research to support the response to COVID-19: a survey of implementation in the EU/EEA

March

Methods for the detection and identification of SARS-CoV-2 variants

Technologies, strategies and approaches for testing populations at-risk for sexually transmitted infections in the EU/EEA

Guidance for COVID-19 quarantine and testing of travellers

One-day in-action review (IAR) protocol in the context of COVID-19

Considerations on the use of self-tests for COVID-19 in the EU/EEA

Introducing a coherent European framework for tuning COVID-19 response measures

Stress test on logistical aspects of COVID-19 vaccination deployment plans for the Western Balkans: final report

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Joint ECDC, EFSA and EURL Lm report: European Listeria typing exercise (ELiTE)

Hepatitis B and C testing in the EU/EEA: progress in reaching the elimination targets

Risk of SARS-CoV-2 transmission from newly-infected individuals with documented previous infection or vaccination

Overview of the implementation of COVID-19 vaccination strategies and vaccine deployment plans in the EU/EEA

The sustainable development goals and hepatitis B and C in the EU/EEA

Rollout of COVID-19 vaccines in the EU/EEA: challenges and good practice

Assessment tool for joint One Health country visits in relation to antimicrobial resistance

April

Reinfection with SARS-CoV-2: implementation of a surveillance case definition within the EU/EEA

Interim guidance on the benefits of full vaccination against COVID-19 for transmission risks and implications for non-pharmaceutical interventions

Objectives of vaccination strategies against COVID-19

May

Guidance for representative and targeted genomic SARS-CoV-2 monitoring

Considerations for the use of saliva as sample material for COVID-19 testing

Considerations on the use of rapid antigen detection (including self-) tests for SARS-CoV-2 in occupational settings

Data collection on COVID-19 outbreaks in closed settings with a completed vaccination programme: long-term care facilities

Overview of the implementation of COVID-19 vaccination strategies and vaccine deployment plans in the EU/EEA

Overview of EU/EEA country recommendations on COVID-19 vaccination with Vaxzevria, and a scoping review of evidence to guide decision-making

Public health impact of SARS-CoV-2 variants of concern: scoping review protocol

The use of antibody tests for SARS-CoV-2 in the context of Digital Green Certificates

Fourth external quality assessment on antimicrobial susceptibility testing and detection of ESBL-, acquired AmpC-, and carbapenemase-production of Salmonella, 2018

Tenth external quality assessment scheme for Salmonella typing

June

Interim public health considerations for COVID-19 vaccination of adolescents in the EU/EEA

Suspected adverse reactions to COVID-19 vaccination and the safety of substances of human origin

Reducing COVID 19 transmission and strengthening vaccine uptake among migrant populations in the EU/EEA

Seventh external quality assessment scheme for Listeria monocytogenes typing

Overview of the implementation of COVID-19 vaccination strategies and deployment plans in the EU/EEA

Indicator framework to evaluate the public health effectiveness of digital proximity tracing solutions

External quality assessment (EQA) schemes to support European surveillance of Legionnaires' disease 2019–2020 - Western Balkans and Turkey

Countering online vaccine misinformation in the EU/EEA

July

COVID-19 in children and the role of school settings in transmission - second update

Partial COVID-19 vaccination, vaccination following SARS-CoV-2 infection and heterologous vaccination schedule: summary of evidence

August

HIV Continuum of care: Monitoring implementation of the Dublin Declaration on partnership to fight HIV/AIDS in Europe and Central Asia (2020 progress report)

September

Interim public health considerations for the provision of additional COVID-19 vaccine doses

Data collection on COVID-19 outbreaks in closed settings with a completed vaccination programme: long-term care facilities, version 2.0

Protocol for a focused after-action review on evidence-based decision-making for selected COVID-19 response measures

Overview of the implementation of COVID-19 vaccination strategies and vaccine deployment plans in the EU/EEA

October

Interim analysis of COVID-19 vaccine effectiveness against Severe Acute Respiratory Infection due to laboratory-confirmed SARS-CoV-2 among individuals aged 65 years and older, ECDC multi-country study

Core protocol for ECDC studies of COVID-19 vaccine effectiveness against hospitalisation with Severe Acute Respiratory Infection laboratory-confirmed with SARS-CoV-2, version 1.0

Facilitating COVID-19 vaccination acceptance and uptake in the EU/EEA

COVID-19 surveillance guidance - Transition from COVID-19 emergency surveillance to routine surveillance of respiratory pathogens

Response plan to control and manage the threat of multi- and extensively drug-resistant gonorrhoea in Europe – Indicator monitoring 2019

Eleventh external quality assessment scheme for Salmonella typing

Options for the use of rapid antigen detection tests for COVID-19 in the EU/EEA - first update

Contact tracing in the European Union: public health management of persons, including healthcare workers, who have had contact with COVID-19 cases – fourth update

November

Overview of the implementation of COVID-19 vaccination strategies and vaccine deployment plans in the EU/EEA

Digital technologies for key public health functions: results of an ECDC expert consultation - May/June 2021

Digital technologies for the surveillance, prevention and control of infectious diseases - A scoping review of the research literature

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Assessment of electronic health records for infectious disease surveillance

Surveillance of COVID-19 in long-term care facilities in the EU/EEA

Tenth external quality assessment scheme for typing of Shiga toxin-producing Escherichia coli

December

Interim public health considerations for COVID-19 vaccination of children aged 5-11 years

Euro-GASP external quality assessment scheme for Neisseria gonorrhoeae antimicrobial susceptibility testing - 2019

Euro-GASP external quality assessment scheme for Neisseria gonorrhoeae antimicrobial susceptibility testing – 2020

Organisation of vector surveillance and control in Europe

Generic protocol for COVID-19 vaccine effectiveness studies during outbreaks in semi-closed settings in the EU/EEA

Rapid assessment of antigenic characterisation capability and capacity for SARS-CoV-2 viruses in EU/EEA laboratories

Methods for the detection and characterisation of SARS-CoV-2 variants - first update

Surveillance reports

March

Tuberculosis surveillance and monitoring in Europe 2021 –2019 data

June

JIACRA III - Antimicrobial consumption and resistance in bacteria from humans and animals

November

Gonococcal antimicrobial susceptibility surveillance in the European Union/European Economic Area, 2019

Surveillance of antimicrobial resistance in Europe, 2020 data

HIV/AIDS surveillance in Europe 2021 (2020 data)

Technical guidance

February

Sequencing of SARS-CoV-2: first update

March

HIV Pre-Exposure Prophylaxis in the EU/EEA and the UK: Implementation, standards and monitoring

Corporate publications

January

Strategic and performance analysis of ECDC response to the COVID-19 pandemic

Single programming document 2021-2023

ECDC Strategy 2021–2027

June

Consolidated Annual Activity Report 2020

Regular publications

Influenza virus characterisation, summary Europe

Measles and rubella monitoring

Communicable disease threats report

Annual Epidemiological Report series on communicable diseases in Europe

New chapters are published as they become available.

Overview table

January

Smallpox - Annual Epidemiological Report for 2019

Rabies - Annual Epidemiological Report for 2019

Congenital toxoplasmosis - Annual Epidemiological Report for 2018

Rift Valley fever - Annual Epidemiological Report for 2019

Plague - Annual Epidemiological Report for 2019

Leptospirosis - Annual Epidemiological Report for 2016

Lassa fever - Annual Epidemiological Report for 2019

Yersiniosis - Annual Epidemiological Report for 2019

February

Diphtheria - Annual Epidemiological Report for 2018

Crimean-Congo haemorrhagic fever - Annual Epidemiological Report for 2019

Yellow fever - Annual Epidemiological Report for 2019

Ebola and Marburg virus diseases - Annual Epidemiological Report for 2019

Tularaemia - Annual Epidemiological Report for 2019

Mumps - Annual Epidemiological Report for 2018

Q fever - Annual Epidemiological Report for 2019

March

West Nile virus infection - Annual Epidemiological Report for 2019

Tick-borne encephalitis - Annual Epidemiological Report for 2019

Zika virus disease - Annual Epidemiological Report for 2019

April

Dengue - Annual Epidemiological Report for 2019

Chikungunya virus disease - Annual Epidemiological Report for 2019

Malaria - Annual Epidemiological Report for 2019

Hantavirus infection - Annual Epidemiological Report for 2019

May

Shiga toxin-producing Escherichia coli (STEC) infection - Annual Epidemiological Report for 2019

Legionnaires' disease - Annual Epidemiological Report for 2019

July

Hepatitis C - Annual Epidemiological Report for 2019

Hepatitis B - Annual Epidemiological Report for 2019

August

Zoonotic influenza - Annual Epidemiological Report for 2020

Seasonal influenza - Annual Epidemiological Report for 2020-2021

September

Tuberculosis - Annual Epidemiological Report for 2019

Poliomyelitis - Annual Epidemiological Report for 2018

October

Cryptosporidiosis – Annual Epidemiological Report for 2018

Cholera - Annual Epidemiological Report for 2019

November

Antimicrobial consumption in the EU/EEA (ESAC-Net) - Annual Epidemiological Report for 2020

Trichinellosis - Annual Epidemiological Report for 2019

Annex 11. Negotiated procedures without prior publication of a contract notice conducted in 2021

Reference	Title	Type of procedure: Art. 11.1. of the Financial Regulation	Amount	Contractor	Contract reference
NP/2021/SMS/23702	Biostatistics Services	Annex 1 - 11.1 (e) - New services/works consisting in the repetition of similar services/works	1,050,000.00	EPICONCEPT SAS*	ECDC/2019/015
NP/2020/DPR/23653	ECDC training in the area of vaccination and vaccine hesitancy for primary healthcare professionals	Annex 1 - 11.1 (a) - Follow-up of an open/restricted procedure where no (or no suitable) tenders/requests to participate have been submitted	173,000.00	THE ASSOCIATION OF SCHOOLS OF PUBLIC HEALTH IN THE EUROPEAN REGION ASB	ECDC/2021/005
NP/2020/ SMS/12295	ESCAIDE	Annex 1 - 11.1 (e) - New services/works consisting in the repetition of similar services/works	150,000.00	TEAM WORK SAS	ECDC/2017/015
NP/2021/PHF/23670	Data management services	Annex 1 - 11.1 (e) - New services/works consisting in the repetition of similar services/works	1,200,000.00	BILBOMATICA SA	ECDC/2019/004
NP/2021/PHF/23670	Data management services	Annex 1 - 11.1 (e) - New services/works consisting in the repetition of similar services/works	1,200,000.00	EUROPEAN DYNAMICS LUXEMBOURG SA	ECDC/2019/005
NP/2021/PHF/23670	Data management services	Annex 1 - 11.1 (e) - New services/works consisting in the repetition of similar services/works	1,200,000.00	SWECO SVERIGE AB	ECDC/2019/006
NP/2021/PHF/23685	COVID-19 high-capacity, high-priority WGS support	Annex 1 - 11.1 (c) - Extreme urgency caused by unforeseeable events not attributtable to the contracting authority	48,200,000.00	EUROFINS GENOMICS AS	ECDC/2021/004
NP/2021/RMS/24808	Security Services	Annex 1 - 11.1 (e) - New services/works consisting in the repetition of similar services/works	3,285,000.00	TEMPEST SECURITY SVERIGE AB	ECDC/2018/036_03

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Prevention and Control (ECDC)**

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