ECDC **CORPORATE**

Consolidated Annual Activity Report

2023

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2023

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Abbreviations

AAR	After-action review
ABAC	Accrual-Based Accounting (European Commission integrated budgetary and accounting system)
ABB	Activity-Based Budgeting
ABC	Activity-Based Costing
AD	'Administrator' Function Group
AF	Advisory Forum
AMC	Antimicrobial consumption
AMR	Antimicrobial resistance
APHEA	Agency for Public Health Education Accreditation
APHL	Association of Public Health Laboratories
ARHAI	Antimicrobial resistance and healthcare-associated infections
ASPHER	Association of Schools of Public Health in the European Region
AST	'Assistant' Function Group
BCMS	Business Continuity Management System (BCMS).
BIP	Business impact
BREEAM	Building Research Establishment Environmental Assessment Method
CA	Contract agent
CAAR	Consolidated Annual Activity Report
CAF	Common Assessment Framework
CCB	Coordinating Competent Body
CDC	US Centers for Disease Control and Prevention
CDTR	Communicable disease threats reports
COVID-19	Coronavirus disease 2019
CPCG	Committee on procurement, contracts and grants
CPD	Continuous Professional Development
CPDP	ECDC Continuous Professional Development Programme
DCG	Director Consultation Group
DG ECHO	Directorate General for European Civil Protection and Humanitarian Aid Operations
DG HERA	Directorate-General for Health Emergency Preparedness and Response Authority
DG INTPA	Directorate-General for International Partnerships
DG NEAR	Directorate-General for Neighbourhood and Enlargement Negotiations
DG RTD	Directorate-General for Research and Innovation
DG SANTE	Directorate-General for Health and Food Safety
DMS	Document Management System
DPO	Data protection officer
DTS	Digital Transformation Services
E3	European Environment and Epidemiology Network
EAAD	European Antibiotic Awareness Day
EACCME	European Accreditation Council for Continuing Medical Education
EAP	EPIET-Associated Programme
EARS-Net	European Antimicrobial Resistance Surveillance Network
ECA	European Court of Auditors
ECDC	European Centre for Disease Prevention and Control
ECED	ECDC Candidate Expert Directory
ECMP	Enterprise Content Management Platform
ECRAID	European Clinical Research Alliance on Infectious Diseases
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
EHU	European Health Union
eIIS	Electronic Immunisation Information Systems
EIOS	Epidemic Intelligence from Open Source
ELDSNet	European Legionnaires' Disease Surveillance Network
ELiTE	European Listeria Typing Exercise
EMA	European Medicines Agency

EMAS	EU Eco-Management and Audit Scheme
EMC	European Medical Corps
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
ENI	European Neighbourhood Instrument
ENP	European Neighbourhood Policy
ENVI	Committee on the Environment, Public Health and Food Safety of the European Parliament
EOC	Emergency Operations Centre
EOHSP	European Observatory on Health Services and Policies
EPHESUS	Evaluation of European Union/European Economic Area Public Health Surveillance Systems
EPIET	Epidemiology path of the ECDC Fellowship programme
EpiNorth	Co-operation project for communicable disease control in northern Europe
EpiPulse	European surveillance portal for infectious diseases
ePLF	Passenger Locator Form exchange platform
EPRS	Emergency Preparedness and Response Support
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
ESF	European Social Fund
EU	European Union
EU/EEA	European Union/European Economic Area
EU-ANSA	EU Agencies Network on Scientific Advice
EUCAST	European Committee on Antimicrobial Susceptibility Testing
EUHTF	EU Health Task Force
EULabCap	EU Laboratory Capability Monitoring System
EUPHA	European Public Health Association
EUPHEM	Public health microbiology path of the ECDC Fellowship Programme
EuroCJD	European and allied countries collaborative study group for Creutzfeldt-Jakob disease
Euro-GASP	European Gonococcal Antimicrobial Surveillance Programme
EURGen-Net	European Antimicrobial Resistance Genes Surveillance Network
EuSCAPE	European survey on carbapenemase-producing Enterobacteriaceae
EVA	ECDC Virtual Academy
EVAP	WHO European Vaccine Action Plan 2015–2020
EVIP	EU Vaccination Information Portal
EVIS	European Vaccination Information System
EVD	Emerging and vector-borne diseases
EWRS	Early Warning and Response System
FAO	Food and Agriculture Organization of the United Nations
FCRP	Fellowship Curricular Review Panel
FG	Function Group
FRA	European Union Agency for Fundamental Rights
FTE	Full-time equivalent
FWD	Food- and waterborne diseases and zoonoses
FWD-Net	European Food- and Waterborne Diseases and zoonoses network
GLLP	Global Laboratory Leadership Programme
GOARN	WHO Global Outbreak Alert and Response Network
HaDEA	European Health and Digital Executive Agency
HAI	Healthcare-associated infection
HAI-Net	Healthcare-Associated Infections Surveillance Network
HEPSA	Health Emergency Preparedness Self-Assessment
HSC	EU Health Security Committee
DG HERA	European Health Emergency Preparedness and Response Authority
HIV	Human immunodeficiency virus
HSI	EU Initiative on Health Security
IANPHI	International Association of National Public Health Institutes
IAS	Internal Audit Service
ICJ	International Court of Justice
ICF	Internal Control Framework
iGAS	invasive Group A *Streptococcus* (infection)
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)
IRV	Influenza and other respiratory viruses
IVMAB	Immunization and Vaccine Monitoring Advisory Board
JEE	Joint external evaluation
JIACRA	Joint Interagency Antimicrobial Consumption and Resistance Analysis
JRC	Joint Research Centre
KPI	Key Performance Indicator
MB	Management Board
MediPIET	Mediterranean and Black Sea Programme for Intervention Epidemiology Training
MERS-CoV	Middle East respiratory syndrome coronavirus
MIS	Management Information System
MoU	Memorandum of understanding
MSM	Men who have sex with men
NFP	National Focal Point
NGO	Non-governmental organisation
NITAG	National Immunisation Technical Advisory Group
NMFPs	National Microbiology Focal Points
NPI	Non-pharmaceutical interventions
OECD	Organisation for Economic Cooperation and Development
PHE	Public Health Emergency
PLF	Passenger locator form
RMS	Resource Management Section (ECDC)
ROA	Rapid Outbreak Assessment
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
SCBTH	Serious Cross-Border Threats to Health (Regulation (EU) 2022/2371)
SDG	Sustainable Development Goals
SIP	Science Impact Framework
SLA	Service level agreement
SNE	Seconded national experts
SoHO	Substances of human origin
SPAR	State Party Self-Assessment Annual Report (IHR)
SPD	Single Programming Document
STEC	Shiga toxin-producing *E. coli*
STI	Sexually transmitted infections
TA	Temporary agent
TALD	Travel-associated Legionnaires' disease
TATFAR	Transatlantic Task Force on Antimicrobial Resistance
TB	Tuberculosis
TEPHINET	Training Programs in Epidemiology and Public Health Interventions Network
TESSy	The European Surveillance System
TTT	Threat Tracking Tool
UCPM	European Union Civil Protection Mechanism
UNSCR	United Nations Security Council Resolution
VEBIS	Vaccine Effectiveness, Burden and Impact Studies
VectorNet	European Network for Arthropod Vector Surveillance for Human Public Health and Animal Health
VENICE	Vaccine European New Integrated Collaboration Effort
VMP	Vaccine Monitoring Platform
VPD	Vaccine-preventable disease
VPI	Vaccine-preventable diseases and immunisation
WGS	Whole genome sequencing
WOAH	World Organisation for Animal Health (formerly known as OIE)
WHO	World Health Organization
WHO/Europe	World Health Organization Regional Office for Europe

Management Board analysis and assessment

The Management Board has assessed the ECDC Consolidated Annual Activity Report for the financial year 2023. The Management Board appreciates the results achieved by the Centre and notes in particular the areas set out below.

Implementation of the work programme 2023

The Management Board notes with satisfaction that ECDC was able to deliver 90% of the outputs planned in its Single Programming Document 2023–2025 (with 5% of the planned outputs postponed, and 4% cancelled, delayed, not implemented or not applicable by the end of the year).

Human resources

As part of the review of ECDC's mandate, at the beginning of 2021, the Centre received an additional 73 posts (both Temporary Agents and Contract Agents) for the years 2021–2024. Hence, similar to the years 2021 and 2022, 2023 was also characterised by a significant volume of recruitment following the increase in posts, but also related to a high number of replacement recruitments due to internal candidates taking up new posts. A total of 55 posts were filled during the year. The Management Board also notes with satisfaction that 38% of the posts were filled by internal candidates. Despite the high number of recruitments, the Centre managed to keep the vacancy rate well below the 5% target at the end of 2023, with only 1.8% of the temporary agent posts vacant.

Budget

The Centre's core budget for 2023 (EUR 90.2 million) decreased by 9.7% compared to 2022 (EUR 99.9 million). Budget implementation in terms of commitment appropriations reached 97% and 71.8% of the Centre's budget was paid in 2023.

In 2023, the Centre carried forward EUR 25.2 million from 2022 and paid EUR 21.2 million throughout the year, corresponding to 83.9%.

Public health emergencies

The COVID-19 PHE Level-1 Maintenance phase (9 June 2022), was downgraded to PHE-Level 0 Recovery phase on 3 April 2023. The number of events/urgent requests requiring immediate response was significantly lower and the focus shifted to longer-term monitoring, prevention and control of SARS-CoV-2. The COVID-19 related scientific work was implemented through the regular organisational structure by experts across many sections of the organisation, according to their respective responsibilities. The first line PHE structure and the COVID-19 internal task force were discontinued. The Management Board notes with appreciation the ECDC public health emergency plan, which was updated in 2023 for the ninth time since its first iteration in 2005, incorporating the lessons learned from the three recent PHEs in 2020–2022. The plan enables the Director to mobilise resources to support the EU-level response to serious cross-border threats to European public health. The Management Board is pleased that ECDC continued to ensure that lessons are learned from the COVID-19 pandemic and that they are used to inform revisions of pandemic preparedness plans and national action plans.

Preparations for the implementation of the reinforced ECDC mandate, including ASPIRE

The Management Board is pleased that during 2023, the Centre developed modalities for the implementation of the reinforced mandate, which came into force on 26 December 2022. ECDC also kept the Management Board regularly informed of the implementation of the reinforced mandate. The Management Board notes that ECDC initiated the implementation of a comprehensive transformation programme ASPIRE (Anticipate, Support, Prepare, Inform, Respond, and Empower) in 2023, which will be fully implemented by 2025. This programme was launched to facilitate the implementation of the mandate, by ensuring that staff are aware of the changes and the ensuing impact on ways of working.

In conclusion, the Management Board welcomes the Consolidated Annual Activity Report 2023, which provides a good overview of the Centre's achievements, as set out in the Single Programming Document (SPD) 2023–2025, adopted by the Management Board.

Foreword by the Chair of the Management Board

It is my great pleasure to introduce the ECDC Consolidated Annual Activity Report 2023, which summarises the work carried out by ECDC with special focus on the strengthened mandate of the Agency.

Let me recall the rationale for the creation of the European Health Union: the Member States and all EU institutions, including the European Parliament, different Directorates-General (DGs) and relevant EU Agencies, should work together, especially during public health crises. The success of the European Health Union is therefore based on collaboration and coordination of actions and it is vital to ensure that the responsibilities of each of the players are clear, so that activities are well coordinated, rather than duplicated.

One of the most challenging aspects of implementing the amended ECDC Founding Regulation and the Regulation on Serious Cross Border Threats to Health is to ensure that the necessary processes are in place at ECDC. The MB continued to support this endeavour throughout 2023, based on regular collaboration and dialogue with ECDC, and work is foreseen to continue in 2024. In implementing its strengthened mandate, ECDC will have a more prominent role in global health. The Agency will be more active in providing hands-on support for preparedness and response activities through the European Health Task Force (EUHTF), as well as further reinforcing its existing collaboration with WHO's Regional Office for Europe, the partnership with Africa's CDC and the network of major CDCs.

Nevertheless, ECDC will face inherent challenges when implementing consequential changes for its transformation as an organisation, in line with its strategic vision. The ECDC Transformation Programme, ASPIRE (Anticipate, Support, Prepare, Inform, Respond, Empower) was developed to raise awareness of the implications of the strengthened mandate and its future impact. ASPIRE represents a solid foundation that will transform the Centre at various levels by improving ECDC's visibility, ways of working, competencies and values, taking it to the next level.

As Chair of the Management Board, I would like to draw your attention to certain concrete elements of ECDC's work in 2023, which will have far-reaching implications for the future.

During its 57th meeting in March 2023, the Amended ECDC Strategy 2021–2027 was presented to the Management Board (MB) for discussion. The MB had already agreed with the overall structure of the strategy, namely the five Strategic Objectives (SOs) and the Action Areas. It was further agreed to extend the mandate of the MB Working Group to review and assess the alignment of ECDC strategic documents (Amended ECDC Strategy 2021–2027 and ECDC Strategy Implementation Roadmap 2021–2027) with the EU Health Union legal texts through 2023. The discussions which took place in the MB Working Group were very valuable, in particular the reflections on the ongoing PESTEL analysis that examines the political, economic, social, technological and legal environment in which ECDC operates. The amended document was subsequently approved at the 58th meeting of the MB in June.

During its 58th meeting, the MB also discussed the proposed priorities for the Single Programming Document 2025 and the action plan arising from the Stakeholder Satisfaction Consultation, carried out in 2022.

During its 59th meeting in November, the Revised ECDC Strategy Implementation Roadmap 2021–2027 was presented to the MB and endorsed in a written procedure following the meeting. The high-level document is a tool to provide guidance and facilitate the annual planning process. It defines what needs to be done at what point in time to achieve each of the strategic objectives in the Amended ECDC Strategy 2021–2027 and contains agreed milestones for the implementation of the new tasks arising from the revised ECDC Founding Regulation.

The implementation of the 2023 work programme had advanced in all areas of the Centre's work, and ECDC delivered 90% of the outputs planned in its Single Programming Document 2023–2025 (with 5% of the planned outputs postponed, and 4% cancelled, delayed, not implemented or not applicable by the end of the year). ECDC's Director convened meetings with the Directors and National Coordinators of the Coordinating Competent Body (CCB) in order to better understand the actual needs of the countries and to tailor the appropriate support to meet their needs and expectations. Furthermore, the Agency increased the impact of its support by deploying communicable disease/public health experts to the countries, as required.

Throughout 2023, the Management Board convened a number of closed sessions to discuss the timeline and process for the selection of a new ECDC Director 2024–2029, including the draft vacancy notice. It is anticipated that the new Director will take up the post in June 2024.

Finally, I would like to take this opportunity to thank my fellow Board members for their valuable and insightful contributions during the ECDC MB meetings. I also wish to express my profound gratitude to ECDC staff for their invaluable collaborative work in public health, and for embracing emerging challenges and opportunities. With our strong foundation, let us continue to be inspired in our shared quest to improve lives across Europe and globally.

Dr Anni-Riitta Virolainen-Julkunen
Chair of ECDC Management Board
26 February 2024

Introduction by the Director

Let me commence by expressing my deep gratitude to colleagues and partners in the Member States (and beyond!) for their dedication and enriching dialogue throughout 2023. I also wish to thank all ECDC staff for their determination and enthusiasm throughout the year.

Beyond a shadow of a doubt, 2023 represented a year of uncertainties in Europe and globally: the continued war waged by Russia on Ukraine, the armed conflict between Israel and Hamas-led Palestinian militant groups, worldwide apocalyptic weather events, ranging from historic wildfires to extreme drought and record flooding, global democratic recession, and rising inflation, all having a far-reaching impact on humanity.

This Consolidated Annual Activity Report (CAAR) outlines the work conducted by ECDC in 2023 and provides a good overview of the Centre's achievements, as set out in the Single Programming Document 2023–2025. What stands out is the immense amount of work done internally in preparation for the implementation of the reinforced ECDC mandate. We also continued to explore better ways of working with our key constituencies, as well as holding productive discussions on moving forward through the European Health Task Force (EUHTF), preparedness, and surveillance with CCB directors, national coordinators, and the Management Board.

Throughout 2023, there were several country visits in which the depth and breadth of the reinforced mandate was conveyed, including how its implementation would have an impact on the Centre's way of working. These visits represented excellent opportunities for hearing the views of the Member States vis-à-vis the implications of the strengthened ECDC mandate for their work, and also the provision of concrete action for support and guidance. Our discussions provided ECDC with an enhanced understanding of the level of joint ambitions, including through the digitalisation of surveillance. Moreover, the Agency was able to tailor envisaged approaches to working optimally with the Member States, the Commission, partners, and other stakeholders. During the year, there were also several high-level visits and a number of events organised in Stockholm, due primarily to the Swedish Presidency but also to ECDC's increased recognition, stemming from the pandemic. It is noteworthy that in May, for the first time ever, the European Commission agreed to include the Centre as part of the EU delegation at the WHO World Health Assembly.

The strengthened mandate will ultimately require the Agency to take a stronger role in supporting EU countries with the digitalisation of surveillance; enhanced joint preparedness and response planning; the provision of non-binding recommendations and stronger guidance during emergencies; vaccine monitoring; the network of EU reference laboratories for public health; enhanced support through the assistance of a ready-to-deploy EUHTF, as well as a reinforced international role. Our amended Founding Regulation places much more emphasis on hands-on support, based on profound country knowledge. ECDC will continue to reassess its way of engaging with stakeholders to jointly determine the level of ambition and ensure that all ECDC activities are based on well-defined needs and priorities.

Given the acute advancement of AI, machine learning, new analytical methods and modelling that will have consequential implications our work, we were pleased to learn of the recent provisional agreement on the proposal for harmonised rules on artificial intelligence (AI). AI can serve to advance surveillance systems through digital solutions to ensure timely, complete, comparable data, including forecasting with different scenarios to influence the future. By embracing new technologies and pooling our existing knowledge innovatively and dynamically through communities of practice, we will accomplish positive, transformative outcomes for public health. With the ensuing accelerated progression of AI, we will need to find an appropriate balance as we navigate our new world of AI systems, while respecting fundamental rights and EU values. During 2023, ECDC established an internal working group on AI to guide its adoption of AI tools and methodologies in a safe way, ensuring that the associated risks are properly identified, understood and mitigated. The public health benefit of different tools will be explored to learn from and to leverage best practices and synergies with our sister agencies and other partners.

There will be many consequential changes in 2024 and 2025 that may impact the work of the Centre. Globally, the new international pandemic treaty and the review of the International Health Regulations (IHR) should be finalised by May 2024, and in force by 2025. Within the EU, notwithstanding the Presidency of the Council of the European Union, a new strategic agenda and priorities for the European Commission will be in place during the autumn, following the European parliamentary elections in June 2024. At ECDC, several vacancies are foreseen to be filled, including that of a new Director, and two new Heads of Unit. The One Health Strategy is also foreseen to be finalised in the first quarter of 2024. In addition, two important evaluations will be carried out: in 2024, the Commission will carry out an evaluation, including an assessment of the operation of the Early Warning and Response System (EWRS) and the epidemiological surveillance network, and in 2025, an external evaluation of the Centre's activities will be conducted, as defined in Article 31 of the amended ECDC Founding Regulation. This external evaluation, initiated by the Commission, will also examine the feasibility of extending the mandate to address the impact of cross-border threats to health on non-communicable diseases.

In closing, on a more sombre note, let me take this opportunity to pay homage to the passing of John F. Ryan, a dear friend who recently retired from his post as DG SANTE Deputy Director General. John was involved in ECDC from the beginning and served for many years as a member of our Management Board, providing strong support for the Agency. When I became Director, he was a reliable reference for me in all matters EU, and he always found solutions to navigate the complex EU system. John received many public accolades on social media that reflect his unique contribution. It was truly an honour to have worked with John on a number of public health initiatives throughout his years of service. His contribution to ECDC's work will always be highly appreciated by all of us.

Dr Andrea Ammon
ECDC Director
18 February 2024

Executive summary

Agency in brief

Legal and procedural background

This document is based on Founding Regulation (EC) No. 851/2004 of the European Parliament and of the Council of 21 April 2004[1], Article 14.5(g), which determines that 'the Board shall adopt before 31 March each year, the general report on the Centre's activities for the previous year.' Following its sixtieth meeting (13–14 March 2024), the Management Board approved the final version of the Consolidated Annual Activity Report 2023.

Mission statement

The Centre's mission is set out in Article 3 of the Founding Regulation:

'[…] the mission of the Centre shall be to identify and assess current and emerging threats to human health from communicable diseases and related special health issues, to report thereon and, where appropriate, to ensure that information thereon is presented in an easily accessible way. The Centre shall act in collaboration with competent bodies of the Member States or on its own initiative, through a dedicated network. The mission of the Centre shall also be to provide science-based recommendations and support in coordinating the response at Union and national levels, as well as at cross-border interregional and regional level, to such threats, where appropriate. In providing such recommendations, the Centre shall, where necessary, cooperate with Member States and take into account existing national crisis management plans and the respective circumstances of each Member State. In the case of other outbreaks of diseases of unknown origin that may spread within or to the Union, the Centre shall act on its own initiative until the source of the outbreak is known. In the case of an outbreak that is clearly not of a communicable disease, the Centre shall act only in cooperation with the coordinating competent bodies and upon their request, and provide a risk assessment.'

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's vision

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

Strategic work areas

ECDC's 2021-2027 strategy[2] has five main 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.

[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.
[2] The strategy was amended in 2023 (Amended ECDC Strategy 2021-2027 (europa.eu)), however, the new structure will take effect in 2024 and will thereby be reflected in the CAAR 2024.

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, and help reinforce prevention and control programmes, training and emergency preparedness in the EU Member States.

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 the development and implementation of programmes to support the Western Balkans, Türkiye and European Neighbourhood Policy (ENP) partner countries and to ensure collaboration and coordination with major Centres for Disease Prevention and Control, international partners and 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

ECDC's organisational structure[3], in force since January 2020, consists of three operational units, two support services units and the Director's Office. The Disease Programmes (DPR) Unit focuses on the disease-specific aspects necessary to empower ECDC's partners to drive public health policy and practice. A major part of ECDC's outputs derive from this Unit, guided and supported by the Scientific Methods and Standards (SMS) and Public Health Functions (PHF) Units. The Scientific Methods and Standards 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 (RMS) and the Digital Transformation Services (DTS) Unit support the achievement of objectives in the above-mentioned 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 and its premises. It provides procurement, legal, meeting organisation and travel arrangement services for 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 of ECDC's core missions and administration.

This report is structured to reflect ECDC's Single Programming Document 2023–2025. The achievements of the Centre are presented in accordance with the structure of the ECDC Strategy 2021–2027[4].

2023 in brief

In 2023, ECDC delivered 90% of the outputs planned in its Single Programming Document 2023–2025. A total of 5% of the planned outputs were postponed, and 4% were cancelled, not implemented, delayed or not applicable by the end of the year.

Work on strengthening surveillance resilience and effectiveness in a pandemic

Following a year-long process of multiple consultations with stakeholders in the countries, ECDC shared with the European Commission a revised list of notifiable diseases[5], their case definition, and a list of notifiable events (implementing Article 13 of the serious cross border threats to health (SCBTH) Regulation). These lists were presented to the Comitology Committee of the Member States for adoption at the end of 2023. Important innovations are the introduction of the concept of mandatory notification of events which, along with the integration of EpiPulse with the EWRS, will create a more timely and effective threat detection and assessment process. It should be noted that the National Focal Points for Surveillance were consulted in May 2023 during an extraordinary meeting in Stockholm, to decide on relevant investment areas to strengthen national surveillance

[3] See Annex 3. Organisational chart.
[4] ECDC Strategy 2021–2027 (https://www.ecdc.europa.eu/sites/default/files/documents/ECDC-Strategy-2021-2027.pdf).
[5] ECDC endeavoured to reduce the list of notifiable disease to those for which EU surveillance adds public health value to Member States.

systems through the EU4Health programme 2023 which allocates EUR 97.3 million to surveillance. These investments in the Member States will be realised through close collaboration between ECDC, the Directorate-General for Health and Food Safety (DG SANTE), and the European Health and Digital Executive Agency (HaDEA).

During May and June 2023, ECDC commenced new activities with Member States to evaluate severe respiratory infection (SARI) surveillance at EU level, and to support the integration of surveillance in the healthcare provision system for severe respiratory infections and bloodstream infections (automatic surveillance from electronic health records).

Work on ECDC's strategy 2021–2027: main achievements

- The execution of the 2023 work programme advanced in all areas of ECDC's mandate. In particular, the implementation of the amended mandate moved forward in terms of ECDC support to the European Commission for the SCBTH Regulation Article 7 survey and Article 8 country assessments. In addition, the operationalisation of the EU Health Task Force and the establishment of the EU Reference Laboratory Network were taken forward.
- The first training packages in the GenEpiBioTrain programme were enacted. The training courses are connected to the infrastructure investments made by the European Commission and ECDC on instrumentation for whole genome sequencing. GenEpiBioTrain offers trainings to Member States in bioinformatics and applied genomic epidemiology for microbiologists and epidemiologists. The first round of training targeted the disease areas antimicrobial resistance (AMR) and respiratory infections. The overall quality of these training courses was assessed as extremely high, with scores ranging from 9.2 to 9.3 on a scale of 10 by learners who provided feedback.
- For Article 15 of the SCBTH on the establishment of the EU Reference Laboratories (EURL), ECDC reached consensus on the process with the European Commission, and in June this process was presented to the National Focal Points for Microbiology. Together with the European Commission, ECDC continued the work implementing EU reference laboratories (EURL) in the area of public health. In the same month, a stakeholder survey was launched to give Member States the first opportunity to define the future laboratory model. Operational Focal Points and National Focal Points could provide input on specific activities to be covered by an EURL in their disease area. Furthermore, Members of the Advisory Forum and National Microbiology Focal Points could provide strategic input for EURL areas of importance. ECDC and the European Commission will continue to elaborate on the implementation process in close collaboration with Member States.
- ECDC continued to develop and consolidate its role in prevention and control of infectious diseases with its 'One Health' perspective. A One Health Task Force was established in 2023 to strengthen collaboration with sister EU agencies and support the continued development of the One Health Framework.
- The Centre continued to strengthen public health microbiology structures and activities in the Member States.
- ECDC continued to perform 24/7 threat detection and assessment through event-based surveillance with an increased reliance on Epidemic Intelligence from Open Source (EIOS) as an effective tool for global event detection. An increased, intense traffic of information in EpiPulse between the Member States led to more robust epidemic intelligence.
- The Agency continued to provide technical support to public health reference laboratory networks across the EU/EEA and to enlargement countries.
- The ECDC Foresight Programme developed six threat scenarios for 2040 to effectively fulfil its mission in each of these future scenarios. The foreseen strategic and policy options to be pursued were prioritised and elaborated to feed into ECDC's mid-term strategy and operational adaptations.
- The Integrated Management Framework (IMF), relating to the Centre's four pillars (governance, organisational performance management, quality management and internal control framework) and two cross-cutting areas (innovation and change management) served to further improve clarity and transparency throughout 2023, including the development of the new ECDC planning and monitoring system (PRIME).
- ECDC updated its Surveillance Atlas of Infectious Diseases with 2022 data and published updated Annual Epidemiological Report chapters.
- EpiPulse events were further improved with the standardisation of its content, automatic generation of outputs, and regular sharing of daily and weekly Communicable Diseases Threats Reports (CDTR).
- ECDC continued producing independent and evidence-based scientific advice. The Centre published 126 ECDC scientific outputs on its website and 58 peer-reviewed articles in scientific journals.
- In mid 2023, the Country Overview Dashboard was released internally. This dashboard reuses existing data and information to create a one-stop-shop for knowledge and key information on each Member State's health system and infectious disease status.
- The training of cohorts 2022 and 2023 of the ECDC Fellowship Programme was delivered as planned. In 2023, 29 fellows graduated from the ECDC Fellowship Programme and the EPIET-Associated Programmes (EAPs) (22 EPIET/EUPHEM from cohort 2021, six EAPs from cohort 2021, one from 2020). At year end, 83 fellows were enrolled (46 from cohort 2022 and 37 from cohort 2023).
- The Mediterranean and Black Sea Programme for Intervention Epidemiology Training (MediPIET) had 42 fellows enrolled during 2023, with 13 active fellows in Cohort 4 (graduating cohort), 16 fellows in Cohort 5 and 13 fellows in Cohort 6 (in training since September 2023). In November 2023, Cohort 4 fellows graduated together with the EPIET, EUPHEM and PAE fellows.
- All ECDC hallmark events were successfully organised: the ESCAIDE conference (22–24 November 2023), which was a hybrid event, with the in-person element of the hybrid event held outside Stockholm (in Barcelona) for the first time, received overwhelmingly positive feedback; the European Antibiotic Awareness Day (18 November 2023), and the ECDC session at the European Health Forum Gastein (EHFG) (27 September 2023).

In the area of strengthening surveillance, in 2022, ECDC started a framework contract with a consortium to facilitate the transition of Member States towards automated surveillance from electronic health records. In 2023, 13 continued to implement surveillance of Severe Acute Respiratory Infections (SARI) and 22 to implement surveillance of bloodstream infections. In addition, 10 countries agreed to join the project in 2024 for surveillance of gonococcal infections.

In 2023, ECDC launched RespiCast, an extension of the successful European COVID-19 Forecast Hub. RespiCast combines multiple forecasting hubs for several respiratory disease indicators, including influenza-like-illness (ILI), acute respiratory infection (ARI), and indicators related to COVID-19 (https://respicast.ecdc.europa.eu/).

Another feature of 2023 was the confirmation of Eurosurveillance's position among the leading journals in the field of infectious diseases once again as a result of excellent scores and rankings in all relevant metrics (Clarivate analytics, Journal Citation Reports Impact factor; SciMAGO Journal rank, Scopus Citescore, Google metrics). Eurosurveillance continued to rank fifth among the journals in its field (IF:19). The journal's editors strengthened existing networks with other journal editors, and established new networks (e.g. with experts at Africa CDC, the European Union Joint Research Centre and the Organisation for Economic Co-operation and Development (OECD)) and engaged in various training activities to support knowledge transfer and knowledge translation. As a signatory to the United Nations Sustainable Development Goals (SDG) publishers' compact, the journal promoted articles and initiatives linked to the health-related SDG Goal 3 and considerations related to diversity and inclusion.

The projects funded through European Commission grants continued: 'Preparatory measures for the participation of the Western Balkans and Türkiye in the European Centre for Disease Prevention and Control 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'.

These achievements, together with other activities carried out by ECDC throughout 2023, are outlined in more detail in the respective sections below.

Other ECDC areas of activity: ECDC's strengthened mandate

ECDC's strengthened mandate and the array of unprecedented global challenges in delivering the Centre's new mission have increased expectations in terms of the required tasks and interventions. The amended ECDC Founding Regulation[6] not only sets the legal basis for the activities that became a priority following the COVID-19 outbreak, but it also introduces new areas of focus for ECDC interventions. Throughout 2023, the Centre continued to implement its new, strengthened mandate by reviewing the modalities of collaboration with its main partners and stakeholders and working with agility and foresight.

In February, the new or strengthened areas of work where the changes would have the most impact were discussed via an on-line stakeholder event and also at the 72nd meeting of the ECDC Advisory Forum (AF72). During AF72, ECDC updated the members on the EU Health Task Force, Substances of Human Origin (SoHO) and the EU Reference laboratories (EURLs). During its 74th meeting, the AF members were apprised of the creation of the ECDC One Health Task Force and the EU Cross-Agency One Health Task Force. The EU Cross-Agency One Health Task Force was established among the EU agencies in the Agencies Network on Scientific Advice (EU-ANSA) that have a technical and scientific mandate covering topics under the 'One Health umbrella' (i.e. ECDC, European Chemicals Agency (ECHA), European Environment Agency (EEA), European Food Safety Authority (EFSA) and European Medicines Agency (EMA). The AF discussed challenges in coordinating One Health activities in their countries. They also exchanged views on the proposed process for the assessment of prevention, preparedness and response planning (Article 8 of the SCBTH) and the process for the provision of scientific advice and science-based recommendations in line with ECDC's amended mandate. In addition, the AF members received an update from the AF Working Group on the public health work force capacity, and updates on the SoHO workplan, the set-up and assignments of the EU Health Task Force (EUHTF) and the EU Reference labs (EURLs). At AF75, discussions continued on the implementation of the SCBTH Regulation.

[6] The amended ECDC Founding Regulation, adopted by the European Council on 24 October 2022, represents the first update to ECDC's mandate since the Centre was created. It complements the provisions put forward in the new Regulation on serious cross-border threats to health and the Emergency Framework Regulation of HERA that were approved by the Council at the same time, completing the European Health Union.

During its 57th meeting, the MB were briefed on the Working Arrangements between ECDC and the European Commission Health Emergency Preparedness and Response Authority (HERA) to strengthen cooperation and to coordinate their work in support of health emergency preparedness and response in the area of medical countermeasures. It became clear that an arrangement was required to clarify roles and responsibilities and to identify ambiguities in areas such as epidemic intelligence, threat assessment and modelling to avert unnecessary overlaps and ensure efficient use of resources. HERA and ECDC identified the following areas of collaboration:

- Intelligence gathering and assessment of health threats relevant to medical countermeasures;
- Modelling, forecasts and foresight activities relevant to medical countermeasures;
- Promoting advanced research and development of medical countermeasures and related technologies;
- Strengthening knowledge in preparedness and response related to medical countermeasures;
- Contribution to reinforcing the global health emergency preparedness and response architecture.

The working arrangements were signed by ECDC, DG HERA and DG SANTE on 16 March 2023.

In April 2023, the Centre's strengthened mandate and its impact on ECDC's way of working were discussed at the annual meeting for Directors and National Coordinators of the ECDC Coordinating Competent Bodies (CCB). The topics for discussion included the network of EU reference laboratories, the vaccine monitoring platform, the framework for prevention of communicable diseases, the network of substances of human origin, an update on digital integrated epidemiological surveillance, preparedness and response, and the European Union Health Task Force. The Directors and National Coordinators expressed their views on ECDC's strengthened mandate for the collaboration and coordination between ECDC and CCBs and these will be taken into account in order to provide further support for the EU countries in the light of the new mandate.

ECDC initiated a revision to the structure and content of its Strategy 2021–2027 to reflect the amended mandate, ensuring that ECDC's actions in the coming years will focus on implementing the strengthened mandate and adapting the organisation and its way of working to face future challenges. At its 58th meeting in June, the Amended ECDC Strategy 2021–2027 was approved by the MB. ECDC also presented the proposal for the 2025 priorities and demonstrated how changes to the amended ECDC mandate were incorporated into its planning. In November, this discussion was followed up with the presentation of the Revised ECDC Strategy Implementation Roadmap 2021–2027 for the implementation of ECDC's amended mandate. The roadmap encompasses the main milestones that the Centre aims to achieve in selected areas before 2027, including increased use of foresight; strengthening of digitalisation and integrated surveillance; transitioning to the EURL model, strengthening of preparedness and response planning; establishing the EU Health Task Force, and enhancing the role of ECDC as a global health security partner. The Revised ECDC Strategy Implementation Roadmap 2021–2027 was approved by the MB through written procedure on 30 November 2023.

During September, 260 staff members came together for a retreat to reconnect with their colleagues and discuss their hopes, fears and opportunities related to the amended mandate and organisational changes needed for its implementation. The retreat aided staff in envisioning the future of the Agency in conjunction with ECDC's updated strategy and strengthened mandate. The event helped set ECDC on its new path by enabling staff to explore ways to increase creative thinking, while developing and implementing innovative solutions within their competencies.

During September 2023, following the report and the action plan of the Stakeholder Satisfaction Consultation, and given the strengthened collaboration with the CCB at a strategic level, and the reinforced role of the National Coordinators, ECDC carried out video interviews with Directors of CCBs to better understand their needs and expectations and to reinforce strategic relationships. The interviews were followed by a joint online meeting in November with CCB Directors and National Coordinators to discuss the outcomes and next steps. A strategic advisory group of CCB Directors was established. The advisory group will meet with the ECDC Director annually during the spring, and CCB Directors and National Coordinators will convene virtual meetings annually during the autumn.

ECDC's internal transformation programme 'ASPIRE' (Anticipate, Support, Prepare, Inform, Respond, and Empower) was launched in January 2023 with an event for all staff focusing on ECDC's vision. February and March were devoted to information sessions pertaining to the new mandate and regulation on serious cross-border threats to health. In April, the ASPIRE actions were rolled out. From May through December, each of the Strategic Objectives was presented sequentially and discussed with staff in the form of 'town-hall' meetings, videos with the staff involved (displayed on screens), and a dedicated ASPIRE page on ECDC's intranet. Pulse checks were also carried out to collect staff feedback. Experts presented specific topics related to the amended ECDC mandate and the SCBTH Regulation to make the Centre aware of the changes which would arise from this and their impact on its ways of working. ASPIRE will continue to be implemented in 2024 and will encompass initiatives such as a gap analysis of competencies and capabilities, an ecosystem analysis, and the development of a stakeholder engagement framework, including the revision of the ECDC Strategy Implementation Roadmap 2021–2027 (key outputs, processes, and KPIs). ASPIRE will serve as a foundation for generating meaningful processes to produce ECDC outputs and services efficiently. It will help to establish a stakeholder management framework, and develop the competencies and skills necessary to implement the strengthened mandate. In terms of the evaluation of the ASPIRE information campaign, specific questions will be included in the regular staff engagement survey, planned for the beginning of 2024.

At the end of 2023, the preparations for implementing the priority elements of the strengthened ECDC mandate were realised: the preparatory group for the EU Health Task Force met for the last time and finalised the work on the operational model to be implemented. Similarly, the practicalities for the Serious Cross Border Health Threat Regulation Article 8 country visits were developed and agreed with Member States.

Part 1. Policy achievements

Indicators of the multiannual programme

Strategic KPI	Baseline	Target	Means of verification	Frequency of verification	Result 2023
Stakeholder satisfaction with ECDC: 1. Surveillance 2. Microbiology 3. Preparedness and response 4. Public health training 5. Communication 6. Antimicrobial consumption, antimicrobial resistance, and healthcare-associated infections 7. Emerging and vector-borne diseases 8. Food- and waterborne diseases and zoonoses 9. STI, blood-borne viruses and TB (SBT) 10. Viral respiratory diseases 11. Vaccine-preventable diseases	1. 83% 2. 80% 3. 90% 4. 92% 5. 90% 6. 79% 7. 92% 8. 86% 9. 94% 10. 89% 11. 67%	85%	Stakeholder satisfaction survey	Biennial	1. 83% 2. 80% 3. 90% 4. 92% 5. 90% 6. 79% 7. 92% 8. 86% 9. 94% 10. 89% 11. 67% (Survey was conducted in 2022)
Uptake of ECDC scientific outputs: a. Success in addressing the public health threats/issues; b. Changes in legislation; c. Changes in national policies; d. Improvements or corrective measures in public health systems (including IT systems); e. Changes in national guidance/recommendations; f. Communication to your target audience (e.g. decision makers, media, public, healthcare workers); g. Discussion with peers and colleagues (inside or outside your organisation).	a. 56% b. 32% c. 44% d. 47% e. 58% f. 69% g. 74%	Not applicable as this is the first instance in which the KPI was measured.	Stakeholder satisfaction survey	Biennial	a. 56% b. 32% c. 44% d. 47% e. 58% f. 69% g. 74% (Survey was conducted in 2022)
Overall stakeholder satisfaction with the work of ECDC.	86%	70%	Stakeholder satisfaction survey	Biennial	86% (Survey was conducted in 2022)
Level of laboratory capacity reached in Member States: EULabCap Index for EU/EEA countries (mean national EULabCap index + potentially inter-country index variation).	EULabCap: 7.8 mean national index (2018)	0.3 point increase	EULabCap surveys	Biennial or Triennial	EULabCap: 7.9 (5.6 to 9.3) mean national index (2021)
Percentage of ECDC staff engagement.	61%	75%	Data collected through Human Resources (HR) survey	Biennial	61% (Survey was conducted in 2022)

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

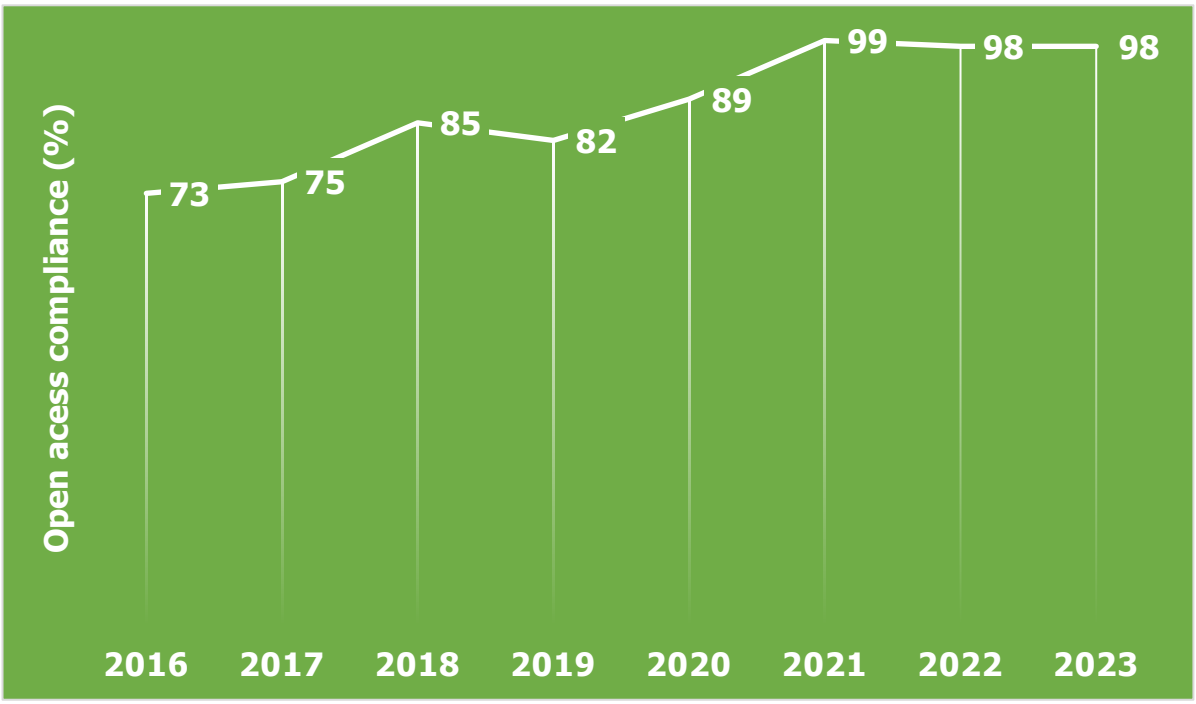
1.1 Standards: promote standard-setting to facilitate the use of data and the implementation of public health policies

Based on the guiding principles of relevance, independence, quality, transparency and accessibility, endorsed by the ECDC Advisory Forum and ECDC senior management in 2022, ECDC revised its public health output categories and output types, considering the amended mandate, the main purpose and intended impact of the output. Related processes and tools, such as the internal procedure on handling internal and external requests for outputs with scientific content, and the Scientific Advice Repository and Management system (SARMS, see also 1.3) are currently being updated. Revisions will be made available on the Centre's website and communicated to ECDC stakeholders.

In 2022, ECDC renewed its commitment to fair acknowledgement of contributions to its work and outputs and to ensuring that ECDC's work is disseminated and easily accessible to all EU citizens through its website and open access publication in peer-reviewed journals (ECDC authorship policy and ECDC open access policy, both of which were first implemented in 2017).

In 2023, 98% of ECDC publications in peer-reviewed journals were open access.

Figure 1. Evolution of the rate of ECDC open access publications, 2016–2023



In the area of surveillance, ECDC carried out a disease prioritisation exercise, resulting in a proposed new list of reportable diseases, updated case definitions, and the inclusion of the concept of reportable events. This revision was carried out in close collaboration with National Focal Points for Surveillance and was endorsed by the Advisory Forum. The draft implementing act is currently being reviewed by DG SANTE and the Health Security Committee's Technical Working Group on Preparedness. A second implementing act, defining surveillance procedures and national roles, as required by Article 13 of the SCBTH, has been drafted and submitted to DG SANTE. A consolidated surveillance standards template has been defined and standards will be progressively implemented from 2024.

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

Throughout 2023, the Centre continued to perform 24/7 threat detection and assessment through event-based surveillance. There was a greater reliance on the EIOS as an effective tool for global event detection and increasingly intense traffic of information in EpiPulse between Member States, leading to increased effectiveness of epidemic intelligence. Evidence from event monitoring was systematically assessed, integrating data available from the scientific literature, indicator-based surveillance, and relevant partner agencies.

In October 2023, the European Respiratory Virus Surveillance Summary (ERVISS) was launched in collaboration with the WHO's Regional Office for Europe. This is an interactive dashboard which provides a weekly integrated epidemiological summary for influenza, respiratory syncytial virus (RSV) and severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) for the European Union/European Economic Area (EU/EEA) and the WHO European Region. ERVISS describes the epidemiological and virological situation for respiratory virus infections across the EU/EEA and the WHO European Region, and follows the principles of integrated respiratory virus surveillance outlined in operational considerations for respiratory virus surveillance in Europe.

Throughout 2023, ECDC continued its monitoring of zoonotic avian influenza. Sporadic human infections were reported in countries outside the EU, while the risk to the public in the EU remained low. Together with EFSA and the EURL, ECDC published five avian influenza monitoring reports in 2023 (March, May, July, September and December).

ECDC also continued with the surveillance of travel-associated Legionnaires' disease (TALD) in 2023 and work progressed throughout the year on the development of TALD EpiPulse. The second 'Exchange of Experts' programme for European Neighbourhood Policy partner countries took place on 29–30 May 2023 with Greece and Lebanon and focused on Legionnaires' disease.

In 2023, the multi-country mpox outbreak continued, primarily affecting men who have sex with men (MSM). WHO declared the end of the public health emergency on 11 May 2023, however surveillance continued in order to monitor the circulation of the virus and detect any upsurge in the number of cases. ECDC continued the monthly data collection throughout the year and, together with WHO, produced monthly bulletins from January to October and quarterly bulletins thereafter. ECDC also published a risk assessment, epidemiological updates, and guidance documents, including a factsheet. Between the start of the outbreak in May 2022 and the end of November 2023, 21 586 confirmed cases of mpox and seven deaths were reported from 29 EU/EEA countries.

The seasonal West Nile virus surveillance commenced in June and ended in early December. Throughout this period, ECDC produced the weekly One Health surveillance updates to report on the situation in the EU/EEA and neighbouring countries.

During 2023, the Emerging, Food and Vector-borne Disease team prepared and published five rapid outbreak assessments for cross-border food-borne events together with the European Food Safety Authority (EFSA). These included an assessment of salmonellosis outbreaks linked to chicken meat and chicken meat products, and an assessment of a prolonged multi-country cluster of listeriosis linked to ready-to-eat fish products.

ECDC continued to provide support to the European Health and Digital Executive Agency (HaDEA) and its contractors in the EURGen-RefLabCap and FWD AMR-RefLabCap projects during 2023. The focus here was on strengthening coordination, support and capacity building for national microbiology reference laboratories in the testing and surveillance of AMR for priority healthcare-associated infections, and for *Salmonella* and *Campylobacter* in human samples.

The Centre continued to collaborate with EFSA on the detection and public health risk assessment of foodborne outbreaks. As part of the 'One Health' agenda, ECDC and EFSA's whole genome sequencing system continued to support Member States with detection and response to foodborne outbreaks. The EU Summary Report on Antimicrobial Resistance in zoonotic and indicator bacteria from humans, animals and food in 2020–21 was published in March 2023, and the European Union One Health 2022 Zoonoses Report was published in December 2023.

Annual epidemiological reports were published for seasonal influenza; zoonotic influenza; anthrax; brucellosis; botulism; chikungunya; cholera; dengue; leptospirosis; malaria; trichinellosis; zika virus disease; hantavirus infection; Creutzfeldt-Jakob disease; listeriosis; typhoid/paratyphoid fever; hepatitis A; chlamydia infection; hepatitis B and C; lymphogranuloma venereum; syphilis; congenital syphilis and tuberculosis, as well as for the special health issues: AMR, antimicrobial consumption and healthcare-associated infections (HAIs): point prevalence surveys, surgical site infections and HAIs in intensive care units. Furthermore, for hepatitis, ECDC worked to improve the data for surveillance and monitoring by implementing several projects (e.g. conducting sero-prevalence surveys).

Enhanced surveillance reports were published jointly with WHO's Regional Office for Europe for tuberculosis, HIV/AIDS and antimicrobial resistance (AMR). In addition, ECDC published its assessment of the health burden of infections with antibiotic-resistant bacteria in the EU/EEA, with an update for 2016–2020. ECDC also updated its Surveillance Atlas of Infectious Diseases with 2022 data.

The Centre continued to provide technical support to public health reference laboratory networks across the EU/EEA and to enlargement countries, taking into account the activities of WHO's network of reference laboratories. These activities included External Quality Assessment (EQA) exercises, training and other capacity-building activities. ECDC and the European Commission jointly initiated the implementation of EU reference laboratories to increase public health microbiology capacity in the EU/EEA countries. After a series of consultations and strategic discussions with key stakeholders, a call for proposals for the first six EU reference laboratories was launched in October 2023. Disease groups covered in these calls included AMR in bacteria, vector-borne viral pathogens, emerging, rodent-borne and zoonotic viral pathogens, high-risk, emerging and zoonotic bacterial pathogens, *Legionella*, diphtheria and pertussis.

The Centre continued to help develop rapid communication of laboratory-based information for surveillance and alert, and support Member States in strengthening their microbiology capacity, based on gaps identified by the EULabCap indicators and EQA schemes.

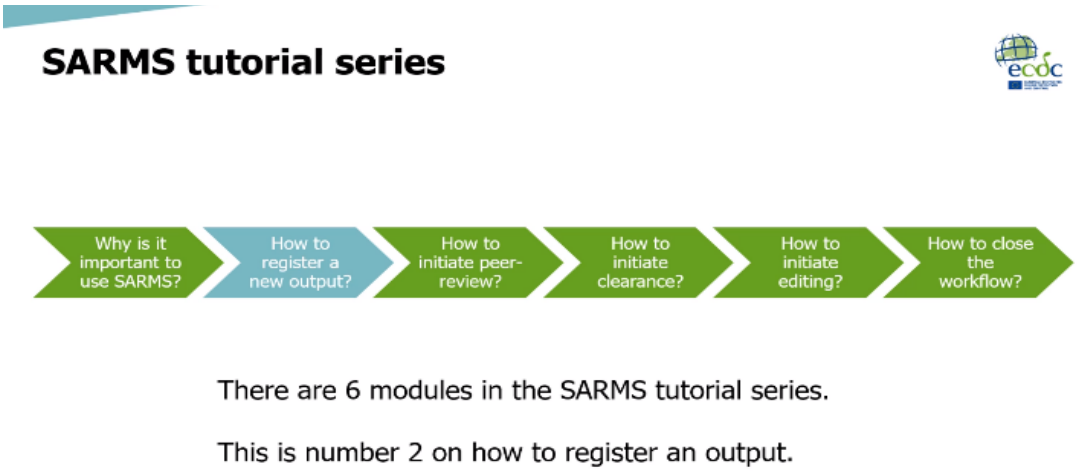
ECDC continued to offer sequencing support to Member States, performing direct sequencing of 19 000 samples of SARS-CoV-2 for surveillance purposes. In addition, sequencing services were also provided to support investigation of specific events for *Corynebacterium diphtheriae*, echovirus, *Legionella pneumophila*, *Listeria monocytogenes*, *Neisseria meningitidis*, and hepatitis A virus.

The Agency continued to strengthen its internal capacities and capabilities in biostatistics and mathematical modelling. In-depth and advanced bio-statistical and mathematical modelling analyses contributed high-quality technical input to ECDC outputs, such as rapid risk assessments and technical reports. ECDC also launched RespiCast, an extension of the successful European COVID-19 Forecast Hub. RespiCast combines multiple forecasting hubs for several respiratory disease indicators, including influenza-like-illness (ILI), acute respiratory infection (ARI), and indicators related to COVID-19 (https://respicast.ecdc.europa.eu/).

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

Throughout 2023, the Centre continued managing and monitoring all its public health outputs to ensure high-quality and timely delivery through its Scientific Advice Repository and Management System (SARMS). SARMS includes templates, checklists and guidance, and is continuously being revised and improved to support the production of the Centre's scientific outputs, including scientific advice and recommendations (see also 1.1). The system also functions as a searchable repository of outputs. All outputs intended for publication on ECDC's website or for submission to conferences or peer-reviewed journals are reviewed and formally cleared by at least two senior staff before dissemination, as well as all outputs with scientific content in response to external requests received by the Centre. This ensures quality and compliance with policies and standards. An overview of produced and planned outputs is extracted from SARMS and presented to ECDC's Advisory Forum every year and made available on the Centre's website. The list of planned outputs for 2023 has been published on ECDC's website. A tutorial series in the form of short videos was initiated in 2023, and two modules were included in the Newcomers portfolio of training arranged by ECDC's Virtual Academy.

Figure 2. The Scientific Advice Repository and Management System (SARMS), tutorial series



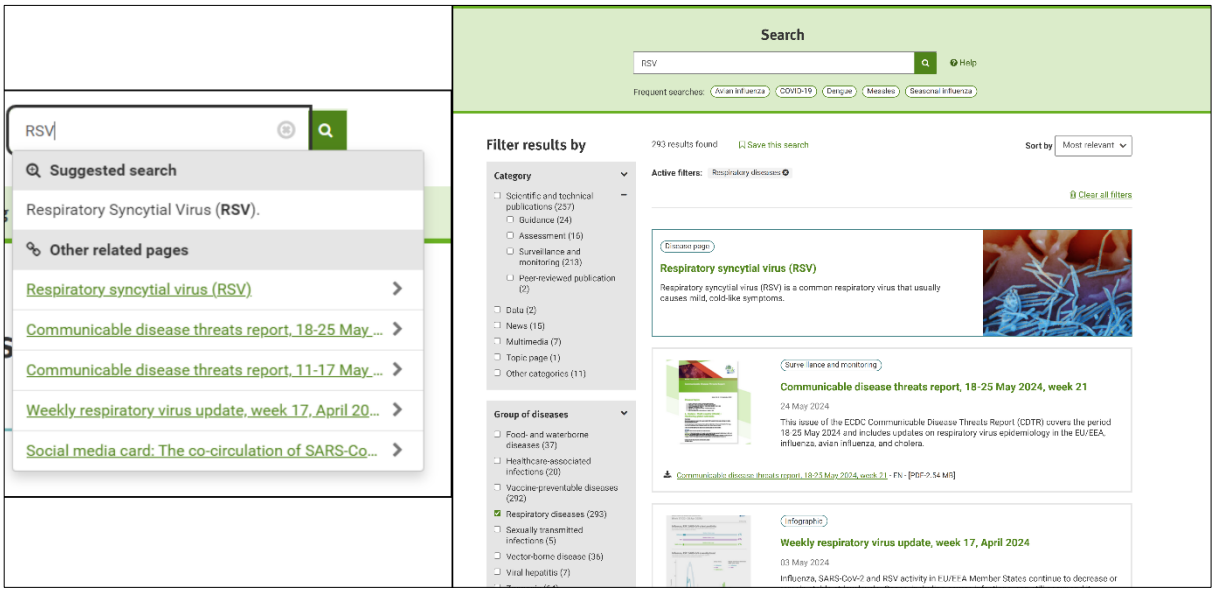
In 2023, ECDC further developed its Science Impact Framework (SIP) to assess the impact of its scientific work and investigated the usability and usefulness of alternative metrics. As part of the science impact framework and in support of ECDC's new mandate, a revision of ECDC scientific outputs (public health outputs, see also 1.1) was undertaken to clarify their main purpose under the new output categories and output types and their intended impact. Steps were taken internally to communicate the scientific impact framework and to engage staff in the revision and implementation. The implementation of the new outputs and output categories starts in 2024.

The Centre also continued its exchange of good practice and knowledge with sister agencies within the EU Agency Network on Scientific Advice (EU-ANSA), by initiating and chairing a working cluster for 'Science for Policy' impact. Workshops on common areas of interest are planned for 2024. ECDC was invited by the Directorate-General for Research and Innovation (DG RTD) to take part in discussions on how to incentivise and measure 'Science for Policy impact', providing the perspective from an EU decentralised agency at the 'Science for policy in Europe' conference on 10–11 October 2023. ECDC also discussed with the Joint Research Centre (JRC) the possibility of organising a workshop dedicated to evaluating its institutional capacity for science-for-policy and its place in the ecosystem.

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

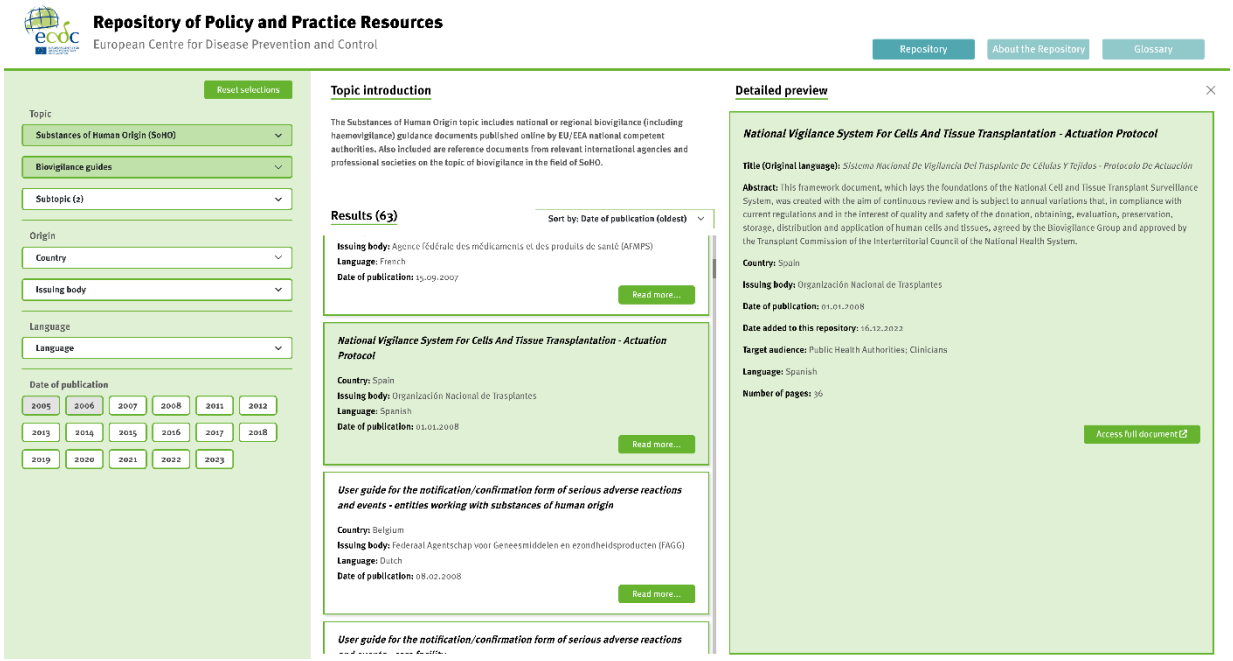
In 2023, the search engine and information architecture of ECDC's website were significantly improved to ensure that ECDC scientific outputs and related knowledge resources can more easily reach their target audience. The enhancements put in place address many of the underlying issues that have previously made it challenging for users to find content and resources. Visitors to ECDC's website now experience a clean and intuitive search page layout, an improved search results display, powered by a refined algorithm and restructured search index. New features, such as promoted results and autosuggest, now guide visitors to pages related to their topic of interest. Refinements to the website's main navigation features and publications pages have also been designed to build upon work done in 2022 and in response to feedback from users.

Figure 3. New ECDC website search feature



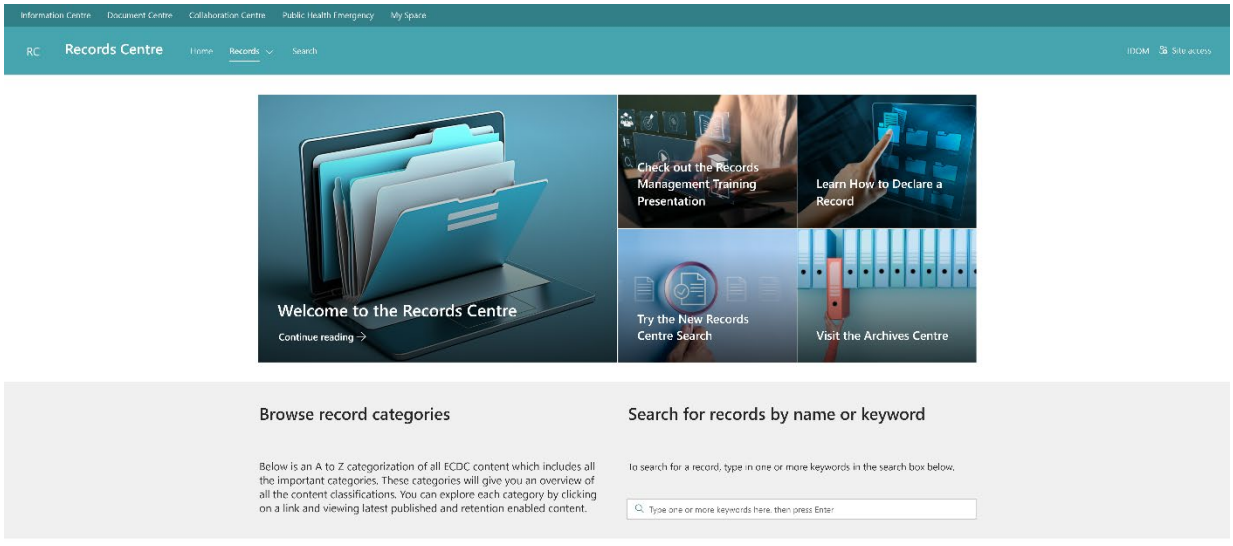
The pilot Repository of Policy and Practice Resources, released on ECDC's website in 2022, was formally evaluated in 2023. The Repository was designed to enable experts in Member States to find relevant examples of guidance produced by authoritative issuing bodies across the EU. This enables them to answer the question 'what has already been done elsewhere' which often arises when Member States have to develop policies or related knowledge resources. The evaluation examined issues relating to content harvesting and maintenance, as well as the perceived value for Member States – exploring what has gone well and where there is scope for further development.

Figure 4. Repository of Member State Policy and Practice Resources, landing page



The internal ECDC Enterprise Content Management Platform that went live in 2022 was further enhanced in 2023 through the launch of an online Records Management module. The new module allows ECDC staff to designate important documents more easily as records. In addition, older documents that are no longer required can now be archived, preserved, and retrieved more easily. The new Records Centre module will help to strengthen document lifecycle management and compliance with legal and regulatory requirements in the field of information management.

Figure 5. ECDC Records Centre



The launch of the new Records Centre was one of several initiatives implemented as part of broader efforts to improve the management and findability of document content within ECDC. Enhancements have also been made to the search tool functionality within the ECMP Document Centre, new revised document handling procedures have been put in place and extensive end-user training, awareness and adoption support activities have been rolled out to internal users. Steps have also been taken to decommission the use of legacy network file storage systems so that all records and working documents are stored in line with governance procedures on the approved internal repository – the Enterprise Content Management Platform.

Two ECDC webinars on the topic of Artificial Intelligence (AI) took place internally to raise awareness and to generate an organisation-wide discussion on the benefits and risks of using AI at ECDC: 'Let's talk about AI at ECDC' with the Director and 'Trustworthy Use of AI – Risks and recommendations'. An ECDC Artificial Intelligence Working Group was also set up to develop and oversee processes to guide ECDC's adoption of AI tools and methodologies. The Working Group focuses on ensuring that the risks associated with AI tools are properly identified, understood and mitigated. To date, a process has been put in place to allow ECDC staff to submit a

request for the evaluation of an AI tool that might be useful for ECDC in the performance of its mission. The AI Working Group is coordinating the development of guidelines for using AI tools at ECDC, liaising with sister agencies to learn from the work they are undertaking in this area.

An internal Knowledge Management framework has been developed to enhance ECDC's approach to the management and transfer of knowledge of strategic importance to the agency. The framework sets out processes and supports activities and tools to be considered when managing knowledge at ECDC so that this knowledge can be effectively incorporated into decision-making processes, scientific outputs, and related support. The framework also establishes several guiding principles that can help to promote a positive culture of knowledge-sharing and collaboration within the Agency.

Several Communities of Practice have been established at ECDC on topics such as foresight, innovation, data science, infectious diseases and public health, to improve internal collaboration and knowledge sharing at ECDC. These Communities of Practice have proven effective in driving collaboration, engagement, and innovation by bringing together groups of people from different areas within the Agency who share a concern, a set of problems or a passion about a topic, and who wish to deepen their knowledge and expertise by interacting with each other. Where possible, these Communities are member-led with specific goals, topics and activities defined by the needs of the members. The Communities are forums that can consider any topic that could benefit from a more collaborative approach or discussion across the Centre, or any areas related to ECDC's scientific work (e.g. drafting scientific outputs, or sharing experiences from network meetings) and they act as an aid to knowledge-sharing and collaboration within the Agency.

Work began in 2023 to establish a dedicated project to enhance the impact of ECDC scientific outputs with stakeholders and target audiences. The project will encompass initiatives to revise the scientific production process, including the involvement of a diversity of skills early in the scientific output creation process. It will also include the creation of new editorial and design tools, templates, and guidance to support the work of ECDC authors. During the year, the templates for ECDC Rapid Risk Assessments and ECDC factsheets were revised to encompass a new structure and design, and take into account editorial considerations for increasing the impact on target audiences.

The scientific journal Eurosurveillance has been offering public health experts/scientists and policy-makers high-quality, open-access information and data relevant for timely public health action since 1996. When producing the journal, the editorial team applies stringent quality control and supports authors and peer reviewers to ensure that the articles, which are published as open access (OA) under a Creative Commons (CC) BY 4.0 licence, contain sound, reliable, understandable, and actionable evidence for a diverse audience. In May 2023, the European Council issued a Conclusion on high-quality, transparent, open, trustworthy and equitable scholarly publishing and Eurosurveillance is already compliant with nearly all the points listed.

As in the past three years, in 2023, the topic of the COVID-19 pandemic continued to prevail among submissions and published articles, although to a lesser extent than before. In line with the journal's aim to be a platform for sharing pertinent experiences and advances in communicable disease prevention and control, published articles also featured a wide range of other infectious disease topics. Some of the topics that received special attention were the spillover of highly pathogenic avian influenza A(H5N1) virus infections to mammalian species, including minks, raccoon dogs, foxes and cats in several countries across Europe; botulism outbreaks with unusual features; dengue outbreaks in Italy and France, and emerging patterns of AMR. These were often covered in rapid communications to support timely public health decision-making.

Since the second half of 2022, as part of the editors' ongoing activities to strengthen knowledge sharing and knowledge translation, and for the benefit of readers with different professional backgrounds, a key public health message box has been added at the top of all published research, surveillance and outbreak articles. In 2023, instructions and messages were also refined to better summarise the article's findings and what these mean for public health, so that they can be easily understood by journalists, policy-makers and non-experts. Furthermore, Eurosurveillance editors (re-)established and strengthened ties with editors from other journals through regular meetings (e.g. with the editors of the Emerging Infectious Diseases journal). These interactions form the core of a growing network of editors from OA journals published by non-for-profit organisations. In addition, a series of co-created webinars with experts at Africa CDC, and active contributions by Eurosurveillance to webinars of the European Union Joint Research Centre and Organisation for Economic Co-operation and Development (OECD), provided additional opportunities for exchanges and insights. For example, exchanges informed the journal's policy on Responsible use of artificial intelligence (AI) tools in scholarly publishing.

After an intensive investigation, and taking into account the resources available, the decision was taken not to set up an exclusive podcast channel for the journal. Nevertheless, one pilot episode was produced jointly with the ECDC communications team and went live in January 2024 and further episodes should follow in 2024. In 2023, Eurosurveillance editors continued their engagement in training activities for various audiences (including fellows of the traineeship programmes). These activities took the form of direct face-to-face interactions and online webinars focussing on peer review and scientific/research integrity aspects. Three microlearning modules for peer reviewers, including one on aspects of diversity and inclusion in manuscripts, are ready to be posted on the ECDC Virtual Academy (EVA) webpage and they will be piloted in the coming months. One educational article, commissioned in 2023, was published in February 2024 and more will follow.

As signatory to the United Nations Sustainable Development Goals (SDG) publishers' compact, the journal editors promoted articles and initiatives connected to the health-related SDG Goal 3. They placed special focus on using inclusive and sensitive language and promoted this via a policy among authors and peer reviewers to support diversity and inclusion. The 2024 annual theme 'Changing urban environments and effects on infectious diseases and their epidemiology, surveillance, prevention and control', launched in September 2023, intends to showcase approaches to infrastructural changes to make cities resilient and reach the SDGs by 2030, focussing on how such changes may impact infectious disease epidemiology. The scientific seminar at ESCAIDE, which attracted over 300 attendees at the venue and nearly 500 attendees online, was also dedicated to the 2024 theme.

In 2023, the position of the journal Eurosurveillance among the leading journals in the field of infectious diseases was once again confirmed through excellent scores and rankings in all relevant metrics (Clarivate analytics, Journal Citation Reports (JCR) Impact factor: rank #5 among the 95 journals in 'Infectious diseases' (IF:19); SciMAGO Journal rank #44 of 2 499 journals in 'Medicine (miscellaneous)', Scopus Citescore: rank #3 of 562 journals 'Public Health, Environmental and Occupational Health', Google metrics) and it remained the highest ranked open access journal in the JCR. ECDC's stakeholder survey, conducted in late 2022, confirmed that quality and reliability were viewed as good or very good by 99% and 100% of respondents, respectively, and 93% deemed that the journal had achieved its aim of providing authoritative public health science to inform policy measures and public health action to 'a great extent' (58%) or 'to some extent' (35%). Stakeholders used our articles for a wide range of purposes, including general knowledge, policy- and decision-making, public health interventions, teaching, research, and clinical practice.

ESCAIDE 2023 in Barcelona marked a milestone for ECDC, attracting over 750 in-person attendees and nearly 2 200 online participants from across the EU and 98 other countries. This diverse attendance highlighted our global impact in public health, especially post-COVID-19. The conference's hybrid format successfully met the evolving needs of public health professionals, offering both accessibility and inclusivity. Discussions focused on contemporary public health challenges, including the role of wastewater surveillance, leadership development in the health workforce, and the importance of well-being post-pandemic. Digital transformation and AI in public health were also among the key topics discussed, alongside the One Health approach, emphasising an integrated response to challenges such as antimicrobial resistance. ESCAIDE 2023 featured a record number of research abstracts submitted, enriching the programme with diverse insights. Pre-conference sessions, technical side-sessions, workshops, and interactive experiences including an Escape Room on Migration and Health, added depth to the conference. Participant feedback was overwhelmingly positive, with 93% expressing high satisfaction. The conference was praised for its relevance, quality and educational value, and the hybrid format and choice of Barcelona as the location were particularly well-received. In summary, ESCAIDE 2023 was a resounding success, setting new standards for future conferences in terms of engagement, content, and innovation.

After successfully resuming activity in 2022, following a two-year break due to the pandemic, the ninth edition of the Observership took place again in person at ECDC's premises on 16–20 October 2023. There were 27 participants from the European Society of Clinical Microbiology and Infectious Disease (ESCMID), the European Society of Clinical Virology (ESCV) and the European Committee for Infection Control (EUCIC). The Observership week serves as a link between ECDC and the learned societies contributing to the positive reputation and visibility of the Centre among young and mid-career professionals. It serves as an excellent platform for knowledge transfer and for future recruitment (as witnessed by an increasing interest of the observers in applying to ECDC vacancies, traineeships, and fellowships). The Observership was highly successful, with positive feedback from ECDC staff, the learned societies and the observers. The observers stressed how the week helped them to understand ECDC's mandate and work, increased interest in public health topics, and supported networking. They praised ECDC staff for their professionalism and availability to share their expertise and knowledge. A new call for expressions of interest was published in November 2023 to provide equal opportunities to other European learned societies and professional organisations to take part in the ECDC Observership. The ECDC Observership week will reconvene in 2024, pending the results of the call for expression of interest (evaluation ongoing).

Strategic objective 1. Performance indicators

KPI	Baseline	Target	Means of verification	Frequency of verification	Result 2023
Scientific quality assurance: proportion of ECDC scientific outputs following the respective workflows, and formally reviewed and cleared before dissemination.	99.5%	100%	SARMS workflows, publication statistics.	Annual	100% of scientific outputs registered in SARMS with formal review and clearance completed prior to dissemination.
Stakeholder satisfaction with daily and weekly Communicable Disease Threat Reports (CDTR).	Weekly CDTR: all indicators rated as good or excellent by 100%. Daily CDTR: all indicators rated as good or excellent by 100%, except timeliness (86%).	80%	Stakeholder survey	Biennial	All indicators rated as good or excellent by 100%.
Timely publication of updated surveillance data in the Surveillance Atlas.	13% of diseases within three months, 74% within five months.	80% of diseases within three months of data collection being completed.	Surveillance Atlas	Annual	Of the 53 diseases with annual reporting, six (11.3%) were in the Atlas within three months after the end of the data collection, 30 (56.6%) within six months, and 48 (90.6%) within nine months.
Efficiency: proportion of ECDC scientific outputs delivered and external requests for scientific input replied to within agreed deadlines.	N/A	100%	SARMS, Chrono, and similar request management systems.	Annual	Not measurable in 2023.
Accessibility: proportion of ECDC scientific manuscripts published as golden open access.	98%	100%	Publication databases, SARMS.	Annual	98%
Proportion of requests for sequencing services from Member States delivered.	100%	100%	Requests received to PHF by DPR.	Annual	100%
Attendees' satisfaction with ESCAIDE.	94%	> 75%	Conference satisfaction survey	Annual	93%
Placement of 'Eurosurveillance' in journal rankings (basket of metrics).	IF 21 (Journal Citation Reports, Clarivate analytics, 2022) #5/95 Scopus CiteScore 22 (Scopus), #3/562 category Medicine (Public Health, Environmental and Occupational Health), #4/108 Medicine (Epidemiology); SCImago Journal Rank (SJR): #45/2,489 journals in the category	Q1 in all metrics and five-year IF ranging between 6 and 10.	SCIMAGO journal rank, Google Scholar journal rank, Clarivate analytics, cite scores.	Annual	IF 19 (Journal Citation Reports, Clarivate analytics, 2022) #5/96 Scopus CiteScore 28 (Scopus), #3/562 category Medicine (Public Health, Environmental and Occupational Health), #4/108 Medicine (Epidemiology); SCImago Journal Rank (SJR): #44/2,499 journals in the category 'Medicine miscellaneous').

KPI	Baseline	Target	Means of verification	Frequency of verification	Result 2023
	'Medicine miscellaneous').				
Submissions from 'Eurosurveillance' countries.	33 of 36 countries	Submission from minimum 20 countries.	Eurosurveillance submission system	Annual	30 of 36 countries
Use of ECDC scientific outputs: - access to ECDC scientific outputs (number of citations) - impact factor of ECDC articles in peer-reviewed journals.	52.42 10.83	- >20 in the five years following publication - >5	Journals	Annual	65.46 10.13

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

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

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 (NCs). In 2022, the work focused on developing internal tools to inform and support ECDC in obtaining more extensive knowledge on the EU/EEA Member States. Targeted support projects were also organised in parallel with this work.

The targeted country support work comprises country overviews and country missions with a view to identifying potential EU funding opportunities for Member States.

Country overviews

In mid-2023, the Country Overview Dashboard was released internally. The dashboard re-uses existing data and information (from ECDC and public sources) to create a one-stop-shop dashboard for knowledge and key information on each Member State's health system and infectious disease status. The country overview dashboard is organised in seven areas: diseases and health issues; surveillance information; country and health governance; microbiology; preparedness and response to public health emergencies; workforce capacity and digital public health. The dashboard enables users to have all essential information about a specific country in one single information hub. The dashboard is built on the Power BI application and accessible from the ECDC Information Centre platform. In 2023, the dashboard was also introduced to Member State representatives at several meetings, including the CCB Director meeting and the Advisory Forum. Upon finalisation of the necessary IT environment, the intention is to share dashboard access with the nominated Member State users. Default access will be granted to the National Coordinators, who will have the authority to manage access for other users within their country. Users will be limited to viewing data for their own country and the EU/EEA average. However, countries have the option to request the opening of their data to all other colleagues.

Country missions

In 2023, a corporate country mission report form and a central repository was established at ECDC, helping to ensure a harmonised approach to country missions, and to facilitate information sharing on follow-up actions and recommendations. Work was also initiated to formulate a consolidated annual director's country mission programme, which would include all country missions undertaken by the director, following an invitation from a country or a dialogue between ECDC and the country experts. This work will be taken forward during 2024.

EU funding opportunities for Member States

A list of funding opportunities entitled 'European Commission funding opportunities in support of Health' was published on ECDC's website in May and updated in November 2023. The list provides an overview of EU funding sources to assist EU/EEA countries with the identification of suitable financing that may cover communicable diseases.

Overall cycle and practical support for targeted country support

In 2023, concrete steps were defined to align targeted country support with ECDC's annual planning cycle. These steps guide the initial roll-out of targeted country support and the collection of best practices and learning.

To ensure coordination of the different strands of country support work implemented by ECDC, work was initiated to establish an integrated approach that should support a coherent and coordinated overview of these activities. The focus of this work is on country support covering one or several countries.

As part of ECDC's country support capacity building in HIV, viral hepatitis, sexually-transmitted infections (STI) and tuberculosis (TB), EU/EEA countries were offered a total of nine activities in 2023. A newsletter communicating these activities, programme updates and scientific outputs, and other initiatives to potentially support countries (e.g. EU funding initiatives) was also disseminated to ECDC's networks on three occasions throughout the year. As part of an ECDC project on hepatitis C prevalence surveys (SPHERE-C), technical support was provided in 2023 to three countries on survey planning and/or execution and analysis, and robust hepatitis C estimates are now available for Estonia and Romania. ECDC continues to support EU countries in generating estimates of HIV incidence, prevalence and the undiagnosed number of people living with HIV using its HIV modelling platform. The European Reference Laboratory Network for TB also continued to support countries with the provision of reliable and timely diagnostic services.

In 2023, ECDC published monitoring reports on the extent to which Member States had achieved the UN SDGs in the areas of HIV/AIDS, hepatitis, and TB. These reports provide important feedback and data to countries, helping them to benchmark and better plan their use of resources.

2.2 Prevention and control programmes: support and strengthen capacity to deliver programmes to prevent and control infectious diseases

Strengthen ECDC's support for targeted prevention and control programmes

Based on robust surveillance data, ECDC continued to support countries with the enhancement of their prevention and control programmes to varying degrees, depending on the disease. The basis for 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, hepatitis, HIV, sexually transmitted infections, TB and substances of human origin (SoHO). In addition, awareness was raised of control programme monitoring and country preparedness for a range of infectious disease threats, such as foodborne outbreaks and influenza.

During the year, ECDC published the guidance 'Prevention and control of infectious diseases among people who inject drugs - 2023 update' in collaboration with the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). As part of ECDC's support in response to threats and outbreaks of mpox, severe acute hepatitis of unknown aetiology in children, and the influx of refugees from Ukraine, the Agency produced information notes, joint statements, interim advice and guidance.

In 2023, ECDC published several outputs on zoonotic avian influenza, including an outbreak investigation protocol to support Member States. The Centre also conducted two surveys to map preparedness against zoonotic avian influenza across the Member States, one on laboratory capacity and the other on the general state of preparedness. Further to these, two documents were produced to guide Member States' surveillance of zoonotic avian influenza during the summer and winter seasons.

Support to the Member States for microbiology capacity-building in the areas of SARS-CoV-2 and influenza continued in 2023, and included EQAs, ring trials, bioinformatics wet lab training, and twinning opportunities. Contributions were made to strengthen Member State capacity in surveillance and outbreak preparedness by extending molecular and genomic typing, providing technical support to public health reference laboratory networks and facilitating the integration of scientific findings into surveillance systems. The Agency is continuing its integrated influenza/COVID-19 syndromic and virological surveillance, implementation of the molecular surveillance strategy, publication of virological surveillance outputs for SARS-CoV-2 (antigenic and genetic) and influenza, antiviral resistance for influenza and molecular surveillance.

The collection and analysis of surveillance data on emerging, zoonotic, and vector-borne diseases in Europe continued in 2023, along with the monitoring of novel pathogens emerging worldwide.

EVD-LabNet continued to provide valuable support to the European Union countries, Western Balkans and Türkiye. An External Quality Assessment (EQA) on emerging alphaviruses was completed in 2023, and a new EQA on arboviruses was initiated. The results of an EQA on rodent-borne diseases, completed in 2021, were also published. Two webinars took place: one entitled 'Review of recent emerging and re-emerging virus outbreaks' and a second one entitled 'Emerging viral diseases'. In addition, two online training courses took place: an 'Introduction to virology, diagnostics and molecular epidemiology' and a training course on phylogeography.

During 2023, ECDC also continued its work on VectorNet. One of the main outputs of VectorNet was the publication of a report presenting the spatial distribution of Crimean-Congo haemorrhagic fever (CCHF) in Europe and neighbouring areas. The updated CCHF maps can be used to identify the areas with the highest probability of disease and target areas where mitigation measures should be focused.

In addition to the EQAs for SARS-CoV-2 and influenza, and emerging alphaviruses and arboviruses, as highlighted above, numerous other EQAs were arranged pertaining to food- and waterborne and emerging and vector-borne diseases. This included the EQA of molecular typing for *Listeria*, Shiga-toxin producing *E. coli* (STEC) and *Salmonella*. Work commenced to prepare for new activity on EQAs for antimicrobial susceptibility testing of *Salmonella* and *Campylobacter,* and the final year of the EQA to support the surveillance of Legionnaires' disease at European level, was successfully completed.

Since the COVID-19 pandemic, ECDC has been providing relevant, high-quality pandemic monitoring data and scientific advice on COVID-19 prevention and control to support the European Commission and EU Member States. The European Vaccine Monitoring Platform (VMP) was set up jointly with the European Medicines Agency (EMA) to

assess the safety and effectiveness of vaccines. Several studies started in close collaboration with the EU Member States. On 21–22 September 2023, EMA and ECDC convened the second Immunisation and Vaccine Advisory Board meeting (IVMAB) in Stockholm. This is a multidisciplinary forum which brings together vaccine regulatory experts and representatives from EU national public health authorities. Its role is to provide advice on the prioritisation, design, implementation and interpretation of VMP studies to help inform regulatory and public health decisions on key vaccines used in EU immunisation programmes.

As part of the activities related to the Vaccine Monitoring Platform, during 2023, ECDC continued to implement vaccine effectiveness studies. In particular, ECDC published a number of protocols and reports related to the 'Vaccine Effectiveness, Burden and Impact Studies' (VEBIS) for COVID-19 and influenza on the basis of studies performed in four different settings: hospitals in the context of SARI surveillance (to estimate vaccine effectiveness against severe disease); primary care (to estimate effectiveness against moderate disease); healthcare worker cohorts (to estimate effectiveness against infection) and nationwide registries (to estimate effectiveness against severe disease). Several countries have joined the VEBIS studies over time, representing ~75% of the EU/EEA. ECDC also provided regular information on policies and the use of vaccines to prevent mpox in the EU/EEA.

The Centre continued to work closely with the National Immunisation Technical Advisory Groups (NITAGs) through the EU/EEA NITAG collaboration and country public health experts at national level via updates and publications on vaccine deployment plans, roll-out of vaccination campaigns, and implementation of vaccination strategies for COVID-19 vaccines. In 2022, ECDC organised eight webinars with the NITAGs on these topics, with the participation of EU and international stakeholders, such as the US Centers for Disease Prevention and Control, non-EU countries, and WHO. A face-to-face annual meeting of the EU NITAG collaboration was organised by ECDC in November 2023. The objective of the meeting was to review achievements and lessons learned three years after the launch of the NITAG collaboration project: to define priorities and improve processes and tools for evidence sharing, and discuss future directions, international and institutional collaborations. In September 2022, a service contract for systematic reviews of scientific evidence on vaccines and capacity-building activities was signed with the European Health and Digital Executive Agency (HaDEA), and ECDC is working closely with HaDEA and the consortium to implement these activities (systematic reviews, training, twinning arrangements, setting up a digital platform/repository and planning annual meetings).

In the area of AMR monitoring, ECDC worked with WHO's Regional Office for Europe to jointly establish a list of selected monitoring (structures and processes) indicators, based on the Food and Agriculture Organization of the United Nations (FAO)/World Organisation for Animal Health (WOAH)/WHO Tripartite Monitoring and Evaluation framework, and these indicators were reported in the first ECDC/WHO Regional Office for Europe joint report on AMR surveillance in Europe (2021 data), published on 14 April 2023. Analytical information of this kind on the level of response to AMR is intended to assist Member States in understanding 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 are included in the third point prevalence survey of healthcare-associated infections and antimicrobial use in European acute care hospitals, completed in 2023, and due to be published in 2024.

Address the behavioural aspects needed for national programmes to be successful

ECDC has continued to address social and behavioural aspects, as well as effective risk communication for the prevention and control of specific diseases. Specific 2023 outputs and activities are set out below.

- Developing a draft framework for the prevention of communicable diseases in the EU/EEA and starting a consultation process with internal and external stakeholders. Following the amended ECDC mandate, the prevention framework will involve a reframing and broadening of the approach to prevention (historically built on microbiological and epidemiological expertise) to additionally include the social and behavioural sciences, health promotion, health literacy, health education, behaviour change, and addressing socio-economic risk factors.
- A range of training courses and presentations were given on social and behavioural sciences and qualitative research in the prevention and control of infectious diseases, including for EPIET, MEDiPIET, the ECDC Summer School, the Health Security Initiative, and the ECDC Observership. The Centre also contributed to a multidisciplinary simulation exercise at ESCAIDE on producing scientific advice.
- Social and behavioural science contributions were made to several ECDC publications, including on public health recommendations to address respiratory pathogens during the winter season 2023/2024, and on designing after-action reviews (AARs) of the public health response to COVID-19.
- Awareness-raising concerning social and behavioural sciences for the prevention and control of infectious diseases continued, through presentations at a range of venues (to Member States, the European Commission, EU agencies, the ESCAIDE conference with an opening plenary session on prevention, academic institutions, and multilateral agencies). With resources in this area being cut in many countries after the acute phase of the COVID-19 pandemic, every opportunity is used to highlight the importance of sustaining the social and behavioural science human resources and infrastructure that have been built up in recent years, as a core component of preparedness against future outbreaks.
- External advice has been provided for projects in Poland: UNICEF – identifying effective methods for promoting vaccination; EFSA – Eurobarometer poll on social and behavioural elements of Avian Influenza; JRC and the National Institute for Public Health and the Environment in the Netherlands (RIVM) – Behavioural

Insights for EU – Embedding behavioural insights into (inter)national policy making, and to WHO's Regional Office for Europe – qualitative study on Behavioural and Cultural Insights (BCI) activities, in support of the WHO/EURO BCI Action Framework.

- Finalising a pilot mapping project of social and behavioural science capacities in four Member States, to provide methodological guidance for the development of a larger, EU-wide Prevention Community of Practice for social and behavioural scientists. A framework contract was signed to develop and launch this Community of Practice in 2024. It will provide training, peer support and an opportunity to exchange experiences and lessons learned for colleagues in public health authorities, universities and research institutions, and civil society, as well as community-based organisations across the EU. The Community will play an important role in the implementation of the EU Prevention Framework, in line with the amended mandate of the Centre.

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

ECDC continued to develop and consolidate its role in the prevention and control of infectious diseases from a 'One Health' perspective. In 2023, ECDC established a One Health Task Force to strengthen collaboration with sister EU agencies and the continued development of the One Health Framework. The Centre also provided high-quality monitoring data and scientific advice for food- and waterborne disease outbreak prevention and control in cooperation with EFSA to support the European Commission and EU Member States. In collaboration with EMA, EFSA, the European Environment Agency (EEA) and the European Chemicals Agency (ECHA), ECDC established the cross-Agency One Health Task Force with the aim of facilitating the implementation of the One Health approach at the EU/EEA level.

Trends in the occurrence of AMR in zoonotic bacteria were monitored and compared from a One health perspective, including bacterial isolates from humans, livestock and food. Work continued to identify emerging strains of AMR which are of particular concern, such as those which are multidrug-resistant, extended spectrum beta-lactamase-producing bacteria 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 2023, ECDC continued to work on the completion of the carbapenem- and/or colistin-resistant Enterobacterales (CCRE) survey under EURGen-Net, and the results will be published in 2024. In 2023, ECDC continued its collaboration with EFSA and EMA on AMR issues, in particular completing the fourth JIACRA report (January 2024), as well as continuing to contribute to the EFSA/ECHA/ECDC/EEA/JRC joint scientific report on the impact of the use of azole fungicides, other than as human medicines, and on the development of azole-resistant *Aspergillus* spp. (December 2024).

ECDC fostered inter-sectoral communication and cooperation at EU and Member State level to apply the One Health approach for the integrated detection and management of emerging, zoonotic, and vector-borne diseases through intensive communication and collaboration with sister agencies (EFSA and EEA), the European Commission and National Focal Points of the EVD network. In addition, the VectorNet project continued to monitor the distribution of arthropod vectors of human and animal pathogens.

In the area of microbiology, ECDC continued to strengthen public health microbiology structures and activities in Member States through supporting the European Commission to award follow-up grants to countries for whole genome sequencing (WGS) and RT-PCR infrastructure and capacity-building. The training programme in applied genomic epidemiology, GenEpiBioTrain was initiated and functionalities in EpiPulse were further developed for management, analysis and visualisation of genomic data.

In 2023, the project on genomic-based surveillance of Invasive Meningococcal Disease (IMD) was launched. After finalising the reporting protocol in close collaboration with Member State experts, ECDC presented the project at the European Meningococcal and Haemophilus (EMGM) Disease Society meeting in Dubrovnik in May. Subsequently, ECDC hosted several workshops with Member States on the operational model, analysis of data including timeline, cluster definition and notifications. The workshops also gave a practical demonstration of data submission and the systems used (EMERT-II and EpiPulse). Member States then began providing genomic data through EMERT-II, which is subsequently linked to the epidemiological data from TESSy and visualised in EpiPulse - enabling enhanced surveillance of IMD.

2.3 Training: provide adequate training opportunities, taking into account the changing environment for infectious disease prevention and control

Coordination of training programmes and support to Member States, the European Commission, and key stakeholders in public health, is at the core of ECDC's mandate. In 2023, the Centre consolidated its offer of continuous professional development activities and continued to implement the Fellowship Programme (EPIET/EUPHEM), including development and initial implementation of the revised curriculum with expanded training in One Health, emergency preparedness and response, and social and behavioural sciences. It also continued to manage the Mediterranean and Black Sea Programme in Intervention Epidemiology Training (MediPIET), running two cohorts in parallel.

In 2023, 29 fellows graduated from the ECDC Fellowship Programme and the EPIET-Associated Programmes (EAPs) (22 EPIET/EUPHEM from cohort 2021, six EAPs from cohort 2021 and one from cohort 2020). At year's end, 83 fellows were enrolled (46 from cohort 2022 and 37 from cohort 2023).

The programmes are possible through the partnerships with public health institutes and laboratories located in EU/EEA countries, where fellows are employed as fully-fledged professionals, learning through service, to conduct surveillance, response and applied research in field epidemiology and public health microbiology. To strengthen and ensure the quality of training, ten training site visits were carried out to the following Members States: Austria, Belgium, Czechia, France, Germany, Greece, Luxembourg, Poland, Romania and Slovakia. The programme developed a new competency framework, drafted by the Fellowship Curricular Review Panel (FCRP), which has been reviewed by internal and external stakeholders, and is expected to be finalised in 2024. At the same time, the fellowship developed and started implementation of a revised curriculum based on this new competency framework, notably a new core 'Introduction to R' module delivered prior to a revised introductory course. The revised introductory course included new R tutorial sessions, a new simulated outbreak exercise, expanded surveillance content in the areas of molecular surveillance and integrated surveillance approaches, an introduction to expanded competency areas (e.g. One Health, emergency preparedness and response, social and behavioural sciences), and integration of management, communication and leadership skills into the introductory course content. The delivery of the revised introductory course and several other training modules to the fellows was done in collaboration with facilitators from the rich network of supervisors and alumni. Planning for several new modules to be delivered in 2024 was also initiated, including a new EUPHEM core module on bio-informatics and whole genome sequencing. The revised curriculum will also increase training flexibility through the delivery of both core and elective modules. In 2023, the new elective modules were decided, and a process was implemented for selection and integration of elective modules into the overall training programme. Most of the training modules in the ECDC Fellowship Programme were delivered jointly with MediPIET (Table 1).

Information on projects in EU/EEA countries and international assignments carried out under the ECDC Fellowship Programme in 2023 can be found on ECDC's website, in the final reports published for each graduating cohort on an annual basis[7].

Table 1. Training modules of the ECDC Fellowship Programme and MediPIET in 2023

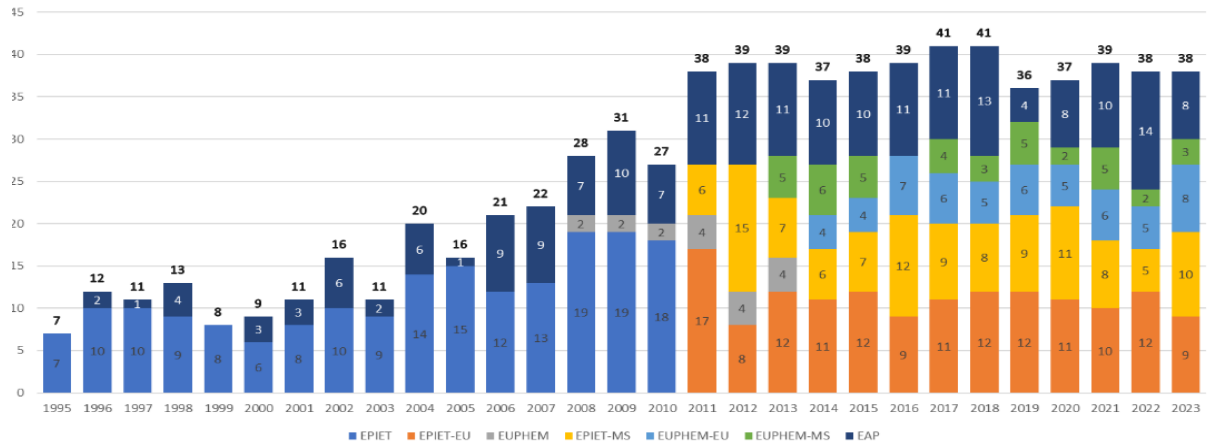
Module/Event	Programme (Cohort)
Qualitative Research Inject Days	ECDC Fellowship (C2021, C2022) MediPIET (C4, C5)
Vaccinology module	ECDC Fellowship (C2021)
CBRN module	MediPIET (C4, C5)
Biorisk and Quality Management module	ECDC Fellowship (C2022)
One Health and Vector-borne Diseases module	MediPIET (C4)
Management, Leadership and Communication in Public Health module	ECDC Fellowship (C2021)
Multivariable Analysis module	ECDC Fellowship (C2022) MediPIET (C5)
Rapid Assessment and Survey Methods module	ECDC Fellowship (C2022) MediPIET (C5)
Project Review module	ECDC Fellowship (C2021, C2022) MediPIET (C4, C5)
Introduction to R course	ECDC Fellowship (C2023) MediPIET C6
Introductory Course	ECDC Fellowship (C2023) MediPIET C6
Study Protocol and Scientific Writing	ECDC Fellowship (C2023) MediPIET C6
Time Series Analysis module	ECDC Fellowship (C2022) MediPIET (C5)

The MediPIET, an inherent component of the EU Initiative on Health Security, is implemented in alignment with the ECDC Fellowship Programme (EPIET/EUPHEM) and had 42 fellows in training during 2023, with 13 active fellows in Cohort 4 (graduating cohort), 16 fellows in Cohort 5 and 13 fellows in Cohort 6 (in training since September 2023). In November 2023, Cohort 4 fellows graduated together with the EPIET, EUPHEM and PAE fellows. With the

[7] For details of the work of the graduate fellows, cohort 2021, please see: https://www.ecdc.europa.eu/en/epiet-euphem/who-we-are/fellows-2021

Egyptian Ministry of Health and Population successfully undergoing a MediPIET training site appraisal in 2023, the number of MediPIET Training Sites reached 14 (of the 21 partner countries). Countries without a fellow continued to send nominated participants to MediPIET modules, enabling further knowledge transfer in a train-the-trainer format. MediPIET Alumni Network held its first face-to-face meeting in 2023, providing an opportunity not only to discuss further operationalisation of the network, but also to reflect upon and celebrate 10 years of the programme. Full details are reported under Action Area 4.1.

Figure 6. ECDC Fellowship Programme: number of enrolled participants per cohort, 1995–2023



Fellows were still engaged in activities related to COVID-19, particularly vaccine effectiveness and vaccine uptake studies. Compared to the pandemic years, there was more engagement in other types of outbreaks (including mpox). Several fellows also conducted projects in the field of One Health. Eleven international assignments were carried out by EPIET and EUPHEM fellows in collaboration with the Global Outbreak Alert and Response Network (GOARN), ECDC/EUHTF and other partner institutions. These were related mainly to the protracted emergency in the Greater Horn of Africa, but fellows also provided support for outbreak response and the strengthening of surveillance systems, as well as capacity building elsewhere (e.g. in French Guiana, Guadeloupe, or Madagascar). Fellows also engaged in operational research assignments (e.g. on risk factors for developing invasive Group A *Streptococcus* (iGAS) infection) in the EU/EEA during the 2022 and 2023 season (assignment under the EU Health Task Force). One fellow also provided support to the epidemic intelligence activities in Portugal during World Youth Day ('Jornadas Mundias da Juventude').

Working groups of NFPs for Training and members of the Fellowship Training Site (TSF) have regularly met and discussed improvements in the domain of international assignments, quality assurance, under-represented countries, and the curricular revision. More specifically, the NFPT and TSF provided detailed written feedback on the revised curriculum, and these comments were the basis for a full-day interactive discussion of the curricular revision in November. NFPT and TSF feedback will be incorporated into the final version of the revised curriculum, expected by mid-2024.

In 2023, ECDC continued to offer a vast array of training courses for Continuous Professional Development (CPD), including instructor-led and e-learning courses. Many experts and teams at ECDC are involved in the production and delivery of these activities. The ECDC Virtual Academy – EVA – is the platform hosting training activities and materials for ECDC training programmes, covering online courses available in open access, and courses and webinars for invitation-only audiences. The 2023 catalogue of CPD training activities offered courses within the following thematic areas: disease-specific/disease-related, preparedness and response, communication in public health, antimicrobial resistance and healthcare-associated infections, data collection and analysis, scientific methods, microbiology and bioinformatics. Thirty-one instructor-led courses and webinars were held, including GenEpi-BioTrain on genomic epidemiology and public health bioinformatics, VectorNet webinars, and ECDC capacity-building related to the SDGs. There were 19 e-learning courses open for all, and 14 exchange visits. In 2023, the number of authenticated users remained stable at 4 432, with 2 561 new authenticated users and 1 871 existing authenticated users, reflecting ongoing user adoption and activity on the platform.

In addition to driving the networks, NFPs for Training and the Fellowship Training Site Forum, there has also been collaboration and networking with other partners including the European Commission, WHO, the Association of Schools of Public Health in the European Region (ASPHER), Africa CDC, the US Centers for Disease Control and Prevention (US CDC), the Public Health Agency of Canada, and the Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET), all key stakeholders with whom ECDC regularly shares experiences.

In 2023, ECDC Public Health Training contributed to the side event of the World Health Summit hosted by the WHO Berlin Hub for Pandemic and Epidemic Intelligence, launching the Global Field Epidemiology Partnership.

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

One of ECDC's core tasks is to provide technical guidance and support to strengthen EU preparedness and response in relation to communicable disease threats. Regulation (EU) 2022/2371 on Serious Cross-Border Threats to Health (SCBTH) and the International Health Regulations (IHR) continued to be the policy frameworks under which ECDC operates for emergency preparedness and response. In this area, ECDC strengthened its collaboration with the European Commission, Member States, WHO Regional Office for Europe and CDCs globally, as well as working on relevant EU Joint Actions (SHARP, Healthy Sailing, Terror, Pandem), and with the Organisation for Economic Co-operation and Development (OECD) and the European Observatory to support activities related to preparedness, response, and health system resilience.

In the context of the SCBTH, ECDC has been heavily involved in supporting the European Commission/DG SANTE with the development of the Member State questionnaire which forms the basis for the Implementing Act under Article 7. This questionnaire was launched successfully and on schedule in 2023, and the completed questionnaire, along with the IHR States Parties Self-Assessment Annual Report (SPAR) and a WHO reporting template, will form the basis of the assessments led by ECDC under Article 8 of the SCBTH. In preparation for Article 8 implementation, ECDC has been working closely with the European Commission/DG SANTE to develop the delegated act which describes the approach to the assessments. In parallel, ECDC has been preparing guidelines for Member States, describing the assessment process and, in conjunction with the Directorates-General involved from the European Commission and other EU agencies, has produced a detailed methodology to manage and inform Member State expectations and ensure uniformity of the assessment process.

In the context of the SCBTH, and specifically in relation to the EU Health Task Force (EUHTF), ECDC created the related advisory body, the Ad Hoc EUHTF Working Group, consisting of six Member State experts, four EC DG representatives (DG SANTE, ECHO, HERA and RTD) and a representative from GOARN. The Ad Hoc EUHTF Working Group met four times in 2023 and provided support in reviewing and discussing all EUHTF technical, operational, and administrative procedures. The EUHTF was operationalised and received 10 requests to strengthen specific areas of preparedness and response. Nine of these were requested by EU countries, the tenth by a third country. Requests for support were mostly related to preparedness work: after-action reviews (AARs), support to prepare simulation exercises, mass gathering events, workforce capacity assessment and training courses in preparedness tools. Two response assignments were related to an operational research study on risk factors and surveillance recommendations for iGAS in Europe, and an assessment of the risk to health from an unprecedented flooding event in a third country. Most of the EUHTF assignments were taken forward by ECDC technical experts. However, in two assignments, ECDC piloted the participation of an ECDC fellow and a Member State expert.

The Early Warning and Response System (EWRS) is hosted by ECDC on behalf of the European Commission and serves as a key tool for supporting the EU-level response to serious cross-border threats to health. During 2023, ECDC maintained the function of EWRS and implemented further improvements to the platform, according to the needs of the European Commission and Member States (e.g. on the selective exchange module for medical evacuation). ECDC supported DG SANTE with two assessment studies, one related to international contact tracing and one related to EWRS functionality. In addition, the EpiPulse platform, launched in 2021, was used extensively to facilitate the collection of data and exchange of experts' experiences in communicable disease outbreaks. During 2023, the production of the Daily and Weekly Communicable Disease Threat Reports continued through EpiPulse and this is now an established process. Maintenance and improvement of the platform continues to be a priority and is supported by experts across ECDC, in close collaboration with EpiPulse stakeholders. The Whole Genome Sequencing (WGS) module was established, and training courses were delivered to Member State experts.

In 2023, 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, was updated, incorporating the lessons learned from the three recent PHEs in 2020–2022 for the ninth time since its first iteration in 2005. In this update, the PHE levels were increased to four (PHE 0 to 3), with the addition of a protracted phase in any PHE level (1, 2 or 3) that is ongoing for an extended period.

The COVID-19 PHE Level-1 Maintenance phase, which was decided on 9 June 2022, was downgraded to PHE-Level 0 Recovery phase on 3 April 2023. The number of events/urgent requests requiring immediate response were significantly lower and the focus shifted on longer-term monitoring, prevention, and control of SARS-CoV-2. The COVID-19 related scientific work was implemented through the regular organisational structures by experts across many sections of the organisation in accordance with their respective responsibilities. The first line PHE structure and the COVID-19 internal task force were discontinued.

During 2023, ECDC published several rapid risk/outbreak assessments (RRA/ROA) to support Member States and the European Commission in their preparedness and response to public health events. A total of nine RRA and threat assessment briefs were published in 2023; three were related to SARS-CoV-2 and mpox, and five were joint ECDC-EFSA rapid outbreak assessments as part of the 'One Health' approach in response to cross-border foodborne threats. In December 2023, ECDC also published an epidemiological update including recommendations for action for the Member States for the increased circulation of respiratory viruses during the end-of-year holidays.

ECDC continued to ensure that lessons are learned from the COVID-19 pandemic, and, importantly, that these lessons are then used to inform revisions of pandemic preparedness plans and national action plans. ECDC published guidance on conducting After-Action Reviews (AARs) to assess the COVID-19 pandemic in March 2023, and its report on lessons learned from the COVID-19 pandemic in May 2023. Working with EU Member States is an important component of this work. Together with the Public Health Agency of Sweden, ECDC published the findings from an AAR focused on school measures in October 2023, while in the autumn that year, ECDC facilitated AARs of the response to COVID-19 in Slovenia and Lithuania. In relation to pandemic preparedness planning, ECDC hosted two online workshops for EU Member States on this topic together with WHO Regional Office for Europe. At the global level, ECDC staff were part of the WHO Guideline Development Group to contribute to the production of WHO guidance on public health and social measures for mitigating the risk and impact of epidemic and pandemic influenza.

During the year, ECDC launched a revision process of the RRA methodology to incorporate lessons learned from the development of RRAs related to COVID-19, taking into consideration the recommendations from the European Ombudsman and the amended ECDC mandate and the new Regulation on SCBTH. The revision process was discussed at the annual meeting of NFPs for Preparedness and Response and Threat Detection in September 2023, and presented at two international workshops devoted to risk assessment methodology in Canada and Geneva.

In 2023, several literature reviews on topics related to emergency preparedness and response were initiated and completed. In the context of ongoing conflicts in Europe and globally, one completed review focused on conflicts and their impact on infectious disease control, and another was a follow-up study on the effectiveness of non-pharmaceutical interventions in controlling SARS-CoV-2 In addition, a review on the cost of the COVID-19 pandemic vs the cost-effectiveness of mitigation strategies in EU/UK/OECD was published during 2023, as was a review on household outbreaks of COVID-19 where children were the index case. Furthermore, a systematic literature review on the transmission of SARS-CoV-2 in aircrafts, the effectiveness of face masks in community settings and a scoping review on lessons learned from the COVID-19 pandemic were also undertaken. A new framework contract for rapid literature reviews (12-week duration) came into force in September 2023, and several rapid reviews are underway, including on the impact of heat waves and flooding on infectious disease control, and the effectiveness of travel measures in mitigating the spread of respiratory disease.

Training courses, workshops, and a simulation exercise were delivered to support public health professionals in the EU/EEA and European Neighbourhood Policy countries in the context of the Health Security Initiative project. During 2023, ECDC trained over 200 public health experts and trainees from EU/EEA countries and countries participating in the Health Security Initiative in ECDC risk assessment methodology. In collaboration with Europol, the National Institute of Public Health of Montenegro and other experts, ECDC delivered a Chemical, Biological, Radiological and Nuclear (CBRN) Awareness and Mitigation Module module for two MediPIET cohorts in Montenegro in March 2023 (about 45 fellows). In addition, again in collaboration with Europol and the Georgian National Centre for Disease Control and Public Health, ECDC organised a training course entitled 'Biorisk awareness and mitigation' for about 35 representatives of countries taking part in the Health Security Initiative project, in November 2023. The course was conceived as a training-of-trainers project, to provide competencies that could be used by the countries to facilitate cascade training. At the same time, it was important that the participant-trainers played an active role as first responders to best integrate the competences acquired by the course with professional experience and expertise. The face-to-face training was supported by the ECDC Virtual Academy (EVA), which hosted the learning materials and supported the activities before, during and after the course. More detailed information on the training courses offered is provided under Action Area 2.3 Training.

During the year, ECDC's network of National Focal Points (NFP) for Preparedness and Response and the NFPs for Threat Detection, Early Warning and Response Systems and International Health Regulations were involved in regular webinars, and their annual meeting was convened in September 2023.

ECDC also organised a comprehensive second consultation on non-pharmaceutical interventions (public health and social measures), which led to the development of ECDC guidance on strengthening preparedness through the designing and implementation of public health and social measures during health emergencies and pandemics in the EU. The draft guidance was sent for consultation during 2023 to ECDC National Focal Points for Preparedness and Response is expected to be published during 2024. On the same topic, ECDC also contributed to the WHO Second Global Consultation on Public Health and Social Measures and has continued work to assess the means for enhancing the monitoring and evaluation of non-pharmaceutical interventions for future emergencies. In addition, work has continued to assess the effectiveness and uptake of such measures, which has been addressed through literature reviews, including a study performed with Eurofound to assess the impact of selected public health and social measures on the work-life balance of Europeans[8].

In February 2023, in response to the earthquake in Türkiye and in collaboration with the European Commission's General Directorate for European Civil Protection and Humanitarian Aid Operations (DG ECHO), ECDC deployed one expert to the affected area. The expert was part of the Union Civil Protection Team coordinating the EU efforts. In collaboration with the European Commission (DG SANTE), the service-level agreements and plans for joint ECDC/DG ECHO field deployments for preparedness and response assignments, both inside and outside the EU, were renewed at the end of 2023.

[8] https://www.ecdc.europa.eu/sites/default/files/documents/Impact_of_selected_NPIs_on_EU_adult_work-life_balance_during_COVID-19_pandemic.pdf

Strategic objective 2. Performance indicators

KPI	Baseline	Target	Means of verification	Frequency of verification	Result 2023
Average rate of participation in ECDC meetings and activities.	58%[9]	75%	Meeting statistics	Annual	Not measured in 2023.
Rate of expectations met, and objectives fulfilled with meetings.	92-100% satisfied[10]	75%	End-of-meeting satisfaction survey.	Annual	Not measured in 2023.
Percentage of satisfied country stakeholders with ECDC country support activities.	86,5% of those participating in selected interactions were very satisfied and satisfied.	80%	Feedback gathered after country support activities.	Annual	Not measured in 2023 due to focus on groundwork for implementing annual targeted country support cycle and bilateral activities with the Member States' on needs assessment.
Number of scientific articles of public health relevance published by attendees of the ECDC Fellowship Programme (during and two years after graduation).	57% increase in scientific articles in the two years following the ECDC Fellowship Programme compared to the two years prior to the programme.	>50% increase compared to the 2-year period before entering the programme.	Bibliometric analysis in PubMED, Scopus (ECDC library).	Annual	88%
Satisfaction of participants with EVA specific training courses.	All above 80% of satisfaction.	80%	EVA satisfaction surveys after completion of a training course.	Annual	87%
Satisfaction with the EVA platform.	82% consider the relevance of EVA as good or excellent.	80%	Stakeholder survey	Biennial	82%
Satisfaction score for the relevance of ECDC's Continuous Professional Development (CPD) activities.	78% consider relevance as good or excellent.	80%	Stakeholder survey	Biennial	78%
Satisfaction score for the timeliness of ECDC's Continuous Professional Development (CPD) activities.	73% consider timeliness as good or excellent.	80%	Stakeholder survey	Biennial	73%
Satisfaction score for the scientific quality of ECDC's Continuous Professional Development (CPD) activities.	82% consider scientific quality as good or excellent.	80%	Stakeholder survey	Biennial	82%
Score of the perceived added value of ECDC's Continuous Professional Development (CPD) activities to the organisation/country.	55% consider added value as good or excellent.	80%	Stakeholder survey	Biennial	55%
Score of the perceived contribution of ECDC's Continuous Professional Development (CPD) activities to sustaining and/or increasing the public health services workforce capacity in the organisation/country.	55% consider the contribution to increased capacity as good or excellent.	80%	Stakeholder survey	Biennial	55%
Use of ECDC risk assessments: number of downloads of each RRA and ROA document from the ECDC website within 30 days of publication.	Non-PHE related RRAs average downloads within 30 days of publication 2019–2022: 206.	180 downloads within 30 days of publication	ECDC webmaster	Annual	Average 241 downloads within 30 days of publication for six non-PHE RRA/ROA in 2023.
Proportion of requests for deployment or remote operational support - in response to cross-border public health emergencies - for which support is provided by the EU Health Task Force to Member States and the European Commission.	No baseline: the EU Health Task Force was created in 2023.	80%	Number of requests for a country visit or remote support.	Annual	89% (eight requests where support was provided out of nine requests received).

[9] Estimated on the basis of eight large disease network meetings (virtual and hybrid) with a total of 1 131 invitations.
[10] Range estimated based on disease network meeting participants' satisfaction surveys (percentage of two highest satisfaction categories: e.g. good-excellent).

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 synthesising the 2023 assessment of major drivers of change influencing future infectious disease threats and EU/EEA public health operations, as well as their likely trajectories and interconnections, the ECDC Foresight Programme developed six threat scenarios for 2040. A subsequent 'backcasting' exercise revealed steps and actions that ECDC could take from now until 2040 to still be able to effectively fulfil its mission in each of these diverse future scenarios. The collated strategic and policy options to pursue are now being prioritised and elaborated to feed into ECDC's mid-term strategy and operational adaptations.

The ECDC Foresight Programme uses a structured multi-method approach – including technical focus groups, surveys, expert and stakeholder consultations, in-depth interviews, and workshops – with wide participation from ECDC staff, diverse external subject-matter experts, specialist practitioners, key decision-makers and institutional partners. This inclusive participation increases quality and reduces blind-spots and bias, while simultaneously strengthening collaborative networks and building capacity in futures and systems-thinking.

A dedicated training series and internal 'Community of Practice' further enhances futures literacy and strategic foresight expertise within ECDC, which will facilitate future support to ECDC's partners and stakeholders in this area, in addition to ongoing outreach and early collaboration.

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

ECDC continues to build on work to engage and support EU-level research actors and actions. Following consultation with Commission services on the report on knowledge gap and research priorities on COVID-19 in early 2023, further projects are ongoing, using systematic literature-based approaches, with subsequent expert-led validation. The first supports ECDC's extended mandate in the area of substances of human origin (SoHO) and focuses on knowledge gaps in the risk of transmission of communicable diseases from blood donor to blood recipient. A second output identifies gaps that limit public health actions to detect, control and prevent legionellosis and Legionnaires' disease.

Since 2021, ECDC has also prepared a report reviewing the frequency and quality of knowledge gaps in published ECDC scientific outputs to improve approaches to the collection and presentation of knowledge gaps in ECDC publications moving forward.

Throughout 2023, staff continued to engage with ongoing EU-funded research projects and coordination mechanisms, including as members of advisory boards and scientific committees, to support the exchange of emerging data and knowledge (e.g. direct involvement in coordination mechanisms for EU cohort studies (Cohort Coordination board), vaccine and therapeutic trials under the European Clinical Research Alliance on Infectious Diseases (ECRAID), and involvement in the BE-READY project developing strategic research innovation agenda and the pandemic preparedness partnership). The Centre has also organised joint research for policy meetings together with DG R&I that serve to encourage policy makers to share information on policy-relevant science addressing specific topics (most recently addressing post COVID-19 conditions in May 2023). In the pre-funding research phases, staff members also supported EU funders in the development and evaluation of EU research calls.

ECDC also led an initiative with its partners in the EU Agencies Network on Scientific Advice (EU-ANSA) to develop a scientific seminar series to increase awareness of scientific activities among EU 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. Following the successful launch, with a first seminar in 2021, ECDC co-developed a webinar on open research and open publication opportunities and challenges with other EU-ANSA affiliated agencies in 2023.

3.3 Support transformation: promote and contribute to 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, considering the infrastructural development fostered by the European Commission and the changes in clinical public health practice in Member States.

The ECDC surveillance portal for infectious diseases, EpiPulse, was used for the reporting and assessment of signals, events, and threats. In 2023, the use of EpiPulse continued to increase and the platform is now an essential communication tool for information exchange between ECDC and the Member States.

ECDC continued to support Member States in the transition towards surveillance from electronic health records, by continuing the piloting surveillance of SARI and bloodstream infections and preparing the work for supporting eHealth surveillance of STIs in 2024.

ECDC supported the European Commission in defining suitable surveillance projects to be funded by the EU4Health programme through National grants. The call for applications ends in February 2024.

In 2023, ECDC continued working as part of an EC-funded consortium to pilot the feasibility of carrying out AMR surveillance using the European Health Data Space (EHDS) infrastructure.

Epidemic intelligence operations were further strengthened by the transition from the Open Sources system to the Epidemic Intelligence system as the main media aggregator tool and by further improving and automating event detection, starting to explore the role of AI. This will be implemented more consistently in 2024 due to the preparation of an outsourcing framework for AI.

During 2023, a method was defined for ensuring interoperability between EpiPulse and the EWRS and implementation began.

At the end of 2023, ECDC launched the ECDC Crowd, a platform to pilot the use of crowdsourcing to support evidence synthesis tasks. The pilot also aims to assess the crowdsourcing potential for other areas such as epidemic intelligence or foresight activities. The launch is being undertaken in two stages, with a soft launch to a restricted audience first, to help identify technical issues, before going live to a broader audience in 2024.

Strategic objective 3. Performance indicators

KPI	Baseline	Target	Means of verification	Frequency of verification	Result 2023
EU research and innovation engagement.	Report on knowledge gaps and research priorities in respect of COVID-19 prevention and control, as perceived by experts working at ECDC, in national public health institutes, and in other ECDC collaborating partner organisations, was collated and presented to the ECDC AF and delivered to the European Commission.	Knowledge gaps and research priorities identified for at least two topic areas.	ECDC content, outputs and reports.	Annual	COVID research gap analysis presented to DG R&I in early 2023. Two outputs on knowledge gaps relating to blood donation and *Legionella* ongoing.
Comprehensive-ness of eHealth-based surveillance implementation.	Thirteen countries participated in eHealth-based SARI surveillance. In total, 22 countries agreed to work on bloodstream infections and AMR eHealth-based surveillance from 2023.	Twelve countries conducting eHealth surveillance of SARI, AMR, and one additional disease.	Project manager, content of specific contract, contract deliverables.	Annual	An additional disease (gonococcal infections) was added, and 10 countries agreed to participate from 2024.
EpiPulse cases (EpiPulse cases rolled out as per plan).	Proof of concept delayed, roll-out therefore postponed to 2023.	Diseases included as per plan.	EpiPulse cases.	Annual	Proof of concept concluded. Launch (VPI and WGS) postponed to July 2024.
Use of EpiPulse (Number of posts uploaded to the platform).	192 per month (median), representing a 43% increase on 2021.	Annual increase in number of posts by 5%.	EpiPulse events and documents, data extraction.	Annual	208 per month (median), representing 8% increase on 2022.
Percentage of diseases with integrated operational WGS surveillance schemes, as per strategic framework and annual planning.	WGS operational for 60% of diseases.	>60%	EpiPulse	Annual	70%
Introduction of AI into Epidemic Intelligence processes.	Automation of the weekly reports for mpox. Procurement of script templates for automated production of updates for threats under long term monitoring.	One AI process per year.	Epidemic Intelligence group.	Annual	ECDC contribution to joint mpox report with WHO Europe automated. Scripts for automated production of updates for threats under long-term monitoring procured and implemented.

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

4.1 Neighbourhood: together with partners, develop and implement a comprehensive programme to support the Western Balkans, Türkiye and European Neighbourhood Policy (ENP) partner countries in strengthening their infectious disease prevention and control systems and public health workforce

With external financial assistance from the European Commission Directorate-General for Neighbourhood and Enlargement Negotiations (DG NEAR) under the Instrument for Pre-accession Assistance (IPA), ECDC continued to implement the project 'Preparatory measures for the participation of the Western Balkans and Türkiye in the European Centre for Disease Prevention and Control with special focus on One Health against AMR and enhanced SARI surveillance, 2020–2024' (ECDC-IPA6 project). The implementation of project activities and the work plan for 2023 was structured around three work streams, as set out below.

Work Stream 1. Preparatory measures for the participation of the Western Balkans and Türkiye in ECDC (systems, networks, activities)

To support national authorities in implementing EU acquis on serious cross-border threats to health by strengthening surveillance, preparedness, and microbiology laboratory system capacities supporting public health, the experts from IPA beneficiary countries were invited to participate as observers in ECDC NFP forums and meetings. More specifically, following the project work plan 2023, 181 experts from the Western Balkans and Türkiye attended 24 meetings during 2023, including seven capacity-building events.

In the area of surveillance, ECDC discussed surveillance data reporting of mutually agreed diseases to TESSy, as per ECDC reporting standards and EU requirements, bilaterally with each beneficiary.

- Gonorrhoea infection (GONO)
- Hepatitis A (HEPA)
- Emerging and vector-borne diseases (EVD)
- Influenza, zoonotic Influenza
- Severe acute respiratory infections (SARISURV, SARISURVDENOM)
- COVID-19 (NCOVAGGR, NCOVTEST, NCOVVACC, NCOVVARIANT)
- Respiratory virus surveillance (RESPISURV), respiratory virus severity indicators (RESPISEVERE).

The feedback provided by ECDC is being followed up to better prepare the countries to meet future obligations in communicable disease surveillance and control.

In 2023, ECDC conducted two country visits on surveillance, in accordance with the agreed terms of reference and ECDC's assessment tool for national communicable disease surveillance systems (europa.eu), to North Macedonia on 3–4 May 2023 and to Montenegro on 13–14 September 2023. The overall aim of the visits was to identify areas in the surveillance of communicable diseases where further work (and possibly ECDC support) would be required to implement the EU acquis on serious cross-border health threats and related ECDC standards and practices.

In the area of public health microbiology laboratory system capacities, ECDC completed the data collection for ENLabCap with 2021 data and provided individual country reports for all participating countries (North Macedonia and Türkiye did not submit their data). ECDC has also finalised the engagement of four beneficiaries into the Euro-GASP project and the countries that expressed an interest have been accepted (Albania, Kosovo[11], Serbia and Montenegro).

[11] This designation is without prejudice to positions on status and is in line with UNSCR 1244/1999 and the International Court of Justice (ICJ) Opinion on the Kosovo declaration of independence.

On 5–6 December 2023, ECDC organised the annual meeting of the national ECDC correspondents in the Western Balkans and Türkiye in Tirana, Albania, inviting five representatives from each country. In total, 35 country representatives from Western Balkans and Türkiye participated on-site and others attended remotely to discuss the project achievements, country needs for ECDC support in different areas of cooperation, and the way forward for the next phase of ECDC activities until 2027. The audience included key stakeholders in the region:

- national ECDC correspondents, observer NFP for Surveillance, observer NFP for Microbiology, observer NFP for Threat Detection, observer NFP for Preparedness and Response (on-site);
- observer NFP for Respiratory Viral Diseases and related Contact Points for Operations (CPOs), observer NFP for Emerging and Vector Borne Diseases and related CPOs, observer NFP for AMR (remotely).

Work Stream 2. Advancement of 'One Health' responses against AMR in the Western Balkans (ECDC/EFSA/DG SANTE)

Following ECDC's open call for tenders OJ/2022/DIR/23891- Country Support to Advance One Health Responses against Antimicrobial Resistance in Western Balkans, and the signature of the framework contract No ECDC/2022/006 'Country support to advance One Health responses against antimicrobial resistance in Western Balkans', the contractor began supporting the advancement of a 'One Health' approach to AMR in the Western Balkans through (i) identification of gaps in the current national AMR strategies and action plans; (ii) development of country roadmaps; (iii) support in the development of electronic surveillance of AMR; and (iv) awareness-raising initiatives. All Western Balkan national public health authorities expressed their commitment to jointly implement activities aimed at advancing One Health responses to AMR, starting from a gap analysis during a country visit, as per the agreed methodology and agenda. ECDC successfully implemented the first One Health visit to Kosovo on AMR during the period 9–13 October 2023, where a team of experts from the European Commission (EC), ECDC, EFSA, and two EU Member States (Finland and Spain) met with national public health, food safety, and animal health authorities, reflected on the work done by Kosovo on the surveillance, prevention, and control of AMR, and presented the strengths and vulnerabilities of the national systems. Similar country visits will be conducted in 2024 which will follow with the support to develop the country roadmaps on AMR in a One Health perspective.

Work Stream 3. Enhancing SARI surveillance in Western Balkans

To support the implementation of fit-for-purpose surveillance systems in the Western Balkans and engage in vaccine effectiveness studies, ECDC continued to support Western Balkans in the E-SARI-Net activities. Data collection and sharing strategies using a standardised TESSy reporting protocol anticipated comparability of the data with EU/EEA. ECDC technical support to national authorities continued to address training needs and support data submissions to TESSy and production of routine surveillance outputs.

Four site visits on country-specific surveillance protocols and SARI surveillance systems were conducted: Montenegro (11 September 2023), Serbia (13 September 2023), Albania (15 September 2023) and North Macedonia (18 September 2023). The aim was to enhance the countries' capacities to implement protocols, validate data and contribute to ECDC activities, as per standards applicable to EU Member States.

In 2023, ECDC delivered the 2023 work programme for the EU Initiative on Health Security (HSI), which is a five-year programme to enhance the public health preparedness and response capacities of the European Union enlargement and European Neighbourhood Policy (ENP) partner countries, funded by the Directorate-General for Neighbourhood and Enlargement Negotiations (DG NEAR). The programme was implemented through three interconnected work packages (WP).

Work Package 1 (WP1): Field epidemiology workforce development through the Mediterranean and Black Sea Programme for Intervention Epidemiology Training (MediPIET)

In 2023, MediPIET organised several training courses for three cohorts - Cohort 4 (graduating in November 2023), Cohort 5 and Cohort 6 (in training since September 2023). WP1 activities kicked off in January with a virtual 'Qualitative Research Inject Days'. The first face-to-face training activity – the 'Chemical, Biological, Radiological and Nuclear (CBRN) awareness and mitigation module' - was held in Petrovac Na Moru, Montenegro in March 2023. At the end of March, ECDC organised a virtual 'Vaccinology Inject Day', followed by two activities in May - a virtual 'One Health and Vector borne Diseases module' and a face-to-face 'Multivariable Analysis Module', which took place in Frankfurt, Germany. In June, MediPIET hosted a hybrid training module in Stockholm on 'Rapid Risk Assessment and Survey methods' together with ECDC Fellowship Programme. MediPIET fellows and supervisors, together with EPIET, EUPHEM and PAE fellows, participated in the 'Project Review Module' in August. An editorial 'Celebrating the third World Field Epidemiology Day: a focus on the MediPIET field epidemiology training programme in Mediterranean and Black Sea countries' was published in Eurosurveillance in September 2023 on the occasion of World Field Epidemiology Day.

MediPIET Cohort 6 formally kicked-off, with 13 fellows from 12 partner countries in September. The cohort's first activity was the 'Introductory course 2023', which took place in Spetses, Greece, preceded by an online 'Introduction to R course' and followed by virtual inject days dedicated to 'Study protocol and scientific writing'. In December, MediPIET organised a 'Times Series Analysis module' in Rome, Italy.

The WP1 team also organised the participation of experts from the MediPIET network in ECDC's Summer School 2023 in May, a face-to-face course 'Preventing infectious diseases by informing policy: the role of advocacy, and social and behavioural sciences', and at the ECDC Winter Workshop 2023 in December, entitled 'Recovery – from

lessons identified to lessons learned'. A virtual site appraisal of the Egyptian Ministry of Health and Population took place in May. The MoHP met all the eligibility criteria and was therefore accepted as an acknowledged MediPIET training site, with the first fellow having joined Cohort 6. In June, ECDC conducted two face-to-face MediPIET Training Site review visits: a visit on 8–9 June to the National Institute of Public Health, Kosovo[12] and on 12–14 June to the Institute of Public Health, Albania. In early July, ECDC also visited another MediPIET training site, the National Centre for Disease Control and Prevention of the Ministry of Health of the Republic of Armenia. In November/December, a MediPIET training site review visit took place to the Institute of Public Health of the Republic of North Macedonia and to the Regional Center of Public Health in Tetovo. Finally, in November, ECDC organised two events in parallel with the ESCAIDE 2023 Conference in Barcelona, Spain. The first was the MediPIET annual scientific event featuring fellows' presentations of their MediPIET projects, and the second was the first face-to-face meeting of the MediPIET alumni network, providing an opportunity to celebrate the 10th anniversary of the programme and to discuss with the wider network plans and prospects for its sustainability. On 24 November, Cohort 4 fellows attended their graduation ceremony, the first joint one together with EPIET, EUPHEM and Post-graduate Training for Applied Epidemiology (PAE) fellows.

Work Package 2 (WP2): Epidemic intelligence, risk assessment, preparedness and response

In 2023, WP2 implemented a wide range of bilateral and regional activities in both Eastern Neighbourhood and Southern Neighbourhood countries. Tailored epidemic intelligence and rapid risk assessment training was provided to Tunisia. A regional workshop on COVID-19 recovery also took place in Tunisia, but the scope of the meeting was for all southern Neighbourhood countries. ECDC continued to develop bilateral support on Emergency Operations Centres (EOCs) for Libya. In the Eastern Partnership countries, ECDC contributed to a WHO workshop on pandemic preparedness, and one ECDC member of staff was part of the Joint External Evaluation team to Armenia. Addressing the interests of many countries, ECDC hosted numerous events open to all WP2 partner countries. This included an event focused on the control of West Nile virus from a One Health perspective in Rome, Italy, and a bio-risk awareness and mitigation training course, organised with the involvement of Europol, which took place in Georgia. In Stockholm, multi-country events included epidemic intelligence and rapid risk assessment refresher training courses; a workshop on behavioural and social sciences for emergency preparedness and response; simulation exercise design and implementation training courses, and a simulation exercise on an AMR-related topic. The numerous events implemented in 2023 have also led to many initiatives which are due to be implemented in 2024 and have served to strengthen coordination with the WHO Regional Office for Europe, and the WHO Regional Office for the Eastern Mediterranean.

Work Package 3 (WP3): Integration into ECDC systems, knowledge sharing and networking

In 2023, a programme was launched for the exchange of experts under the WP3. In total, eight exchanges took place covering various diseases programmes. This provided opportunities for Tunisia and Belgium to discuss surveillance of Creutzfeldt–Jakob disease, Greece and Lebanon to share experiences on *Legionella* surveillance, Bulgaria and Armenia to focus on the prevention of food- and waterborne disease outbreaks, and for Cyprus and Egypt to look at the topic of HIV infection in connection with the movement of populations in the Eastern Mediterranean. In the second part of the year, various exchanges related to AMR and antimicrobial consumption (AMC) took place. Slovenia and Azerbaijan exchanged knowledge on AMR surveillance, while Austria, Tunisia and Libya discussed Austria's approaches to AMR, including its national action plan on AMR, strategies for responsible use of AMR, and ongoing AMR stewardship activities. Denmark and Ukraine focused on the Danish DANMAP programme for surveillance of antimicrobial consumption and resistance in bacteria from food, animals, and humans, while Sweden, Egypt, Georgia, and Tunisia discussed a broad range of topics addressing AMR and infection prevention and control (IPC), including patient safety, availability of diagnostics, stewardship, and training, as well as the need to strengthen IT solutions, data feedback, behavioural insights, and communication.

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

In 2023, ECDC met virtually on three occasions with its focal points at major Centres for Disease Control (CDCs) that are also members of the network of major CDCs. The network formally approved its terms of reference and exchange on the winter respiratory season and IHR amendment developments. The network of major CDCs aims to meet three times a year via teleconference and once a year in-person. Additional meetings may take place, depending on requirements.

Several bilateral meetings were arranged between ECDC and the CDCs with which it has signed memoranda of understanding (MoU), such as the US CDC and the Public Health Agency of Canada. ECDC engaged virtually or in-person with national organisations in the process of developing new CDCs, such as Brazil and the ASEAN region, to share the Centre's experience in building a CDC. ECDC also met with potential new partners, such as Gulf CDC, to advance discussions on establishing bilateral relations. In 2022, the Centre commissioned an external evaluation of its work with other major CDCs to gauge the value of ECDC's international cooperation. The final report, received in January 2023, contained 21 recommendations ranked high, medium and low priority, which pertain to both the

[12] This designation is without prejudice to positions on status and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

elaboration and execution of MoUs and joint action plans, as well as the functioning of the network of major CDCs. Certain recommendations have already been taken forward, such as the formalisation of terms of reference for the network of major CDCs, while others will be considered for the implementation of the strategic road roadmap actions under SO4.2 – Global health.

In 2023, ECDC continued to work closely with Africa CDC on the implementation of the four-year technical partnership project entitled 'EU for Health Security in Africa: ECDC for Africa CDC' with funding from the European Commission's Directorate-General for International Partnerships (DG INTPA).The overall aim is to contribute to health security in Africa by sharing EU practices and strengthening Africa CDC's capacities in preparedness, surveillance and response to health threats posed by communicable diseases.

Work package 1: preparedness, outbreak response, and emergency operations

In the area of disease prioritisation, the team published Africa CDC's first risk-ranking and prioritisation of epidemic-prone diseases methodology and began to test the risk-ranking tool via regional workshops addressing Regional Collaboration Centres (RCCs) and African Union member states. Many training courses and learning events took place to equip experts with skills in public health emergency preparedness response planning, including a 'train the trainer' simulation exercise in Arusha, Tanzania; an intra-action review of the cholera outbreak response in Yaoundé, Cameroon, and an in-action/after-action review training workshop for French-speakers in Abidjan, Ivory Coast. ECDC also participated in the development of Africa CDC's Public Health Emergency Management Fellowship as a member of the Technical Advisory Committee.

Work package 2: surveillance, data management and sharing, epidemic intelligence

Project experts completed the feasibility study for the development of a mobile application to collect data on communicable disease events, tentatively targeting healthcare or community workers, and finalised the pilot of a laboratory capacity dashboard to integrate and visualise data and key performance indicators (KPIs). ECDC and Africa CDC jointly supported the development of respective cross-continental tools and guidelines, such as the contribution to the development of the Africa CDC event-based surveillance framework, through input to the resource launch workshop and the revision workshop, both held in Nairobi, Kenya. Both agencies collaborated on the development of healthcare-associated infections definitions in Africa at a foundational expert meeting in Addis Ababa, Ethiopia. Teams jointly participated in ECDC's ESCAIDE conference during a side event on public health intelligence and at Africa CDC's International Public Health Conference in Africa, with a poster abstract outlining agency exchange during public health events.

Work package 3: public health workforce development and capacity-building

Counterparts continued to exchange knowledge on the creation and management of learning content for Africa CDC's new learning management system, including delivering the last in a series of learning workshops held in Addis Ababa, Ethiopia, and ongoing work to localise existing ECDC e-learning content for Africa CDC audiences. ECDC is supporting Africa CDC's African Epidemic Service, including contributing to the development of the strategic proposal and participation in a series of consultative workshops. A survey was also launched to map field epidemiology training programmes in Africa and identify gaps in the provision of training.

In 2023, working jointly with ECDC colleagues and colleagues at Africa CDC's science office, Eurosurveillance piloted a series of co-produced and co-convened webinars to support capacity building in the areas of scientific writing and publishing. The target audience were mid- and junior career experts at Africa CDC. Four of six planned 90-minute webinars were delivered between July and December and were well attended by staff. According to anecdotal feedback from co-conveners at Africa CDC, the impact was positive.

The table below shows the webinar titles and number of participants.

Table 2. Webinar topics and number of participants

Topics	Number of participants
Scientific and abstract writing	122
Why publish and how to improve your chances to publish in a scientific journal?	67
Who should be an author on a scientific manuscript?	97
Writing for impact	70

Work package 4: horizontal activities

The project liaison office was officially launched, with the completion of three successful tours in 2023. The request for the second instalment of the budget was approved by the funding authority in July. The data-sharing agreement between ECDC and Africa CDC is now awaiting signature. An external mid-term evaluation was initiated with the aim of improving project delivery. It is foreseen that the evaluation will be finalised in March 2024.

4.3 Coordination: ensure seamless coordination with EU and international partners to achieve common objectives

During the past year, ECDC has continued to further strengthen its coordination and collaboration with key partners, both at the EU and global level.

Actions included close cooperation with the EU institutions and bodies, particularly with the European Commission (DG SANTE, DG HERA, DG ECHO, DG NEAR, DG INTPA, DG JRC) and the European External Action Service (EEAS) to ensure ECDC European and international actions are coherent with the EU priorities and policy objectives.

ECDC and the Directorate-General for Health Emergency Preparedness and Response Authority (DG HERA) signed a working arrangement to strengthen cooperation and coordinate their work in support of health emergency preparedness and response in the area of medical countermeasures.

During the Swedish Presidency of the Council of the EU in the first half of 2023, ECDC participated in several events, including the High-Level Conference on AMR and the Informal Health Ministers Council. ECDC also welcomed COREPER II Ambassadors for a study visit.

Regular contacts, cooperation and exchanges of views continued to take place in 2023 between ECDC and the European Parliament, with the Committee on the Environment, Public Health and Food Safety (ENVI), and with its subcommittee on public health (SANT). Hearings also took place with the Special Committee on the COVID-19 Pandemic and with the Budgetary Control Committee (CONT). The annual hearing of the ECDC Director in ENVI took place on 4 December 2023.

Topics of particular interest to the European Parliament were the implementation of ECDC's reinforced mandate and the new Regulation on SCBTH; lessons from the COVID-19 pandemic; AMR; vaccine preventable diseases and stigma related to people living with HIV/AIDS. ECDC's director and/or ECDC experts were invited as speakers to European Parliament events relating to these topics. ECDC has also closely been following the discussions and negotiations on the European Health Data Space and its possible implications for the Agency.

ECDC also continued to inform the Council of the European Union of ongoing health emergencies during the informal and formal Employment, Social Policy, Health and Consumer Affairs Council (EPSCO) meetings.

Collaboration with other EU agencies, such as EMA, EFSA, and the European Aviation Safety Agency (EASA), continued during 2023. A new technical annex to the MoU with EMA was adopted to provide a framework for the agencies to collaborate on post-authorisation monitoring of vaccines. EASA and ECDC agreed to replace their framework agreement, concluded in 2011, and an updated set of arrangements was signed. The MoU will foster cooperation between both parties within their respective mandates to ensure holistic, harmonised and evidence-based prevention and response to sanitary threats and outbreaks. The areas of collaboration include a regular exchange of information and the sharing of relevant ECDC output, such as the weekly Communicable Disease Threat Report (CDTR), potential risk assessments or technical guidance. Furthermore, the EASA-ECDC Aviation Health Safety Protocol, first published in 2020, was updated in 2023.

During the European Health Forum Gastein (26–29 September 2023), ECDC organised an interactive session with break-out groups on the role of strategic foresight in public health, exploring different future scenarios in an uncertain world which may have an impact on infectious diseases. The number of participants, immediate feedback and evaluation that followed indicated that the session had been successful in raising awareness of the need to explore possible future scenarios in preparation for the unknown.

ECDC's close collaboration with WHO continued. ECDC's Director was invited to attend the 73rd session of the WHO Regional Committee for Europe. The strategic dialogue and emergence of new areas for cooperation triggered a revision of the MoU between the two organisations, which is being negotiated and should be concluded in 2024, along with a co-publishing agreement.

At a technical level, ECDC and WHO's Regional Office for Europe have worked very closely and jointly implemented or collaborated on 86 activities within the different disease programmes. In addition, ECDC continued collaboration with the WHO Hub for Epidemic and Pandemic Intelligence and initiated cooperation with the WHO European Centre for Preparedness for Humanitarian and Health Emergencies, as well as with WHO's Regional Office for Eastern Mediterranean.

Strategic objective 4. Performance indicators

KPI	Baseline	Target	Means of verification	Frequency of verification	Result 2023
Rate of implementation of activities in the annual work programme, offered to ENP partner countries.	85%	80%	EIC statistics	Annual	80%
Number of MediPIET cohorts trained by ECDC.	0 (graduation of one cohort to take place in 2023).	Three	Webpage of the EU Initiative on Health Security or MediPIET.	Annual	One
Number of new cooperation agreements with major CDCs signed.	0	N/A	Agreements signed.	Annual	0
Goal of having three teleconferences and one face-to-face meeting per year of the network of major CDCs achieved.	Three teleconferences and one face-to-face meeting.	Four teleconferences and one face-to-face meeting organised or attended (depending on ECDC's role).	Meeting reports	Annual	Three TCs
Rate of implementation of activities in the annual work plan, validated annually by the ECDC4AfricaCDC Steering Committee.	N/A	80%	Annual report, project steering committee report.	Annual	57.4%
Percentage of requests from the European Commission and Member States answered within agreed timeline.	100%	95%	Chrono	Annual	100%
Percentage of requests from the European Parliament answered within agreed timeline.	100%	95%	Chrono	Annual	100%
Satisfaction of participants attending ECDC session at the European Health Forum, Gastein.	96% (Survey result: 4.8/5).	80%	External survey (EHFG organisers).	Annual	88% rated the session as excellent/very good (4.4/5).
Rate of implementation of activities in the annual joint action plan with WHO Regional Office for Europe.	87% (includes only planned activities, not ad hoc or continuous).	90%	Joint action plan with WHO Regional Office for Europe.	Annual	92%

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

ECDC has an Integrated Management Framework (IMF) document in place, describing the state of the system's four pillars - governance, organisational performance management, quality management, and internal control framework, along with 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 to minimise its administrative burden. It equips all ECDC staff with easy access to the documentation, describing how ECDC is run and how activities are carried out at the Centre, and ensures that ECDC's management is provided with the information needed to take timely, well-informed decisions. The IMF working group was established to support the further development and improvement of the IMF and the IMF Roadmap 2022–2027. The IMF Roadmap was developed to define the improvements needed for the IMF, to address the gaps between the current state of play and the IMF envisioned for 2027. The document describes the vision for the IMF in 2027, the gaps identified, and the actions needed to achieve the 2027 vision. In addition, the document provides a review of the resources needed to implement the necessary changes.

In 2023, the instructional document management system within this framework was further developed, and work continued to review and optimise existing processes.

In the coming years, the Agency will implement an ISO 9001:2015-based quality management system. A pilot project related to quality management was implemented in the Executive Office, with the support of external experts.

In accordance with the Integrated Management Framework, ECDC successfully completed the assessment and initial development of its IT systems and architecture for support and steering activities. In 2023, the individual projects continued in relation to a business process management tool, an action plan tool, and e-workflows for procurement, and these will continue in 2024. In 2023, a large area of work was the development of the new ECDC planning and monitoring system (PRIME), which will be completed in 2024. This system will replace the present management information system (MIS).

As part of the improvements to the Internal Control Framework (ICF) at ECDC, new survey-based indicators were introduced to be able to better assess the implementation of the ICF. The first ECDC internal control survey was also performed in early 2023, and the results were integrated into the assessment performed for the CAAR 2022 and the CAAR 2023.

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

The year 2023 was characterised by a significant volume of recruitment following the increase in posts, but also related to a high number of replacement recruitment rounds, due to internal candidates taking up new posts (38% of the posts were filled with internal candidates). A total of 55 posts were filled during the year. Yet, despite the high number of recruitments, the Centre managed to keep the vacancy rate well below the 5% target at the end of 2023, with only 1.8 % of the temporary agent posts vacant. In the years following the pandemic, 2023 was the first year in which the Centre was not in a constant crisis operation mode. With a new strategy being implemented, many new staff having entered the organisation, internal staff in new posts, and a hybrid way of working, a staff retreat took place with the aim of bringing staff together to discuss the future. To cater for, and support staff and managers through times of change, the Human Resources (HR) function continued to provide support services to ensure the well-being of personnel with mindfulness training, coaching, and an observer training programme to further enhance a respectful working environment. To improve HR services in the long-term, efforts were launched to improve quality in the recruitment process and strengthen the employer branding of the Centre.

The People@ECDC framework was introduced, with particular focus on staff's health and wellbeing, professional development, and further development towards a diverse and inclusive workplace. The framework will guide the modernisation and consolidation of ECDC's HR management services and activities in the years to come. Individual projects within the framework are already underway, such as activities linked to health and well-being, diversity and inclusion and a training programme for stakeholder management, while others were finalised in 2023, such as the development of the competency framework. Furthermore, a 360-degree feedback exercise took place, involving all managers and staff in the Centre, the outcome of which will guide the establishment of a management development programme during 2024.

With the new ways of working, in which most of the work is done in a hybrid mode**,** specific attention has been given to further strengthening collaboration among staff and to have opportunities to socialise both within and outside of the Centre's premises. One important part in the organisation-wide workplace transformation project is the socialising pillar, with a primary focus on making the Centre's premises attractive in terms of networking and connecting with internal colleagues, as well as external stakeholders. The promotion of collaboration and ensuring cohesion will continue to be important aspects for the organisation in the years to come.

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

Stakeholder satisfaction consultation

The Centre commissioned the design and delivery of a stakeholder satisfaction consultation, which was executed in summer 2022 through a mix of 16 specific surveys, eight focus groups and 23 interviews. The invited participants were members of our key stakeholder groups such as the Management Board, Advisory Forum, Directors of CCBs, National Coordinators, National Focal Points, Operational Contact Points, EU and international partners, learned societies and associations, and the media. Due to the coincidence of three outbreaks in summer 2022, when a major part of the consultation took place, the overall response rate was 22%, which is considered to be the main limitation of the consultation, along with the fact that many of the individuals responding fulfilled several different roles, meaning that they were unable to reply to each of the specific surveys.

The overall satisfaction rate of 86%, and the even higher satisfaction with the support for Member States in making informed decisions (93%), as well as the great valued placed on ECDC's COVID-related outputs, showed the high appreciation of key stakeholders. Among ECDC's strengths, most of the stakeholders mentioned the Centre's scientific advice, the high satisfaction with the network and key outputs, the excellent results of Eurosurveillance, ECDC's fellowship programme, and the informative and relevant content published on its social media channels. The areas for improvement related to the involvement of the Member States in the development and consultation of its outputs, ECDC's limited influence on changes in national legislation or improvement in public health systems, and a better understanding of Member State issues and capabilities when implementing activities in national context. Key results of the consultation are shared in 'Part 1: Policy achievements, Indicators of the multiannual programme' in this document. The Centre defined an action plan resulting from the analysis of the report, shared with ECDC's Management Board and Advisory Forum, which is currently being implemented. ECDC's vision for its communication activities is to help target audiences make informed decisions on their health, and the health of others. It does this by actively engaging with them and providing relevant, easy-to-understand content on infectious diseases epidemiology, prevention and control, in collaboration with Member States, the European Commission and other partners across the EU and globally.

In 2023, the ECDC communication policy 2022–2027 continued to be implemented, targeting audiences such as health professionals, policymakers, the public, the media and ECDC staff. Throughout the year, ECDC tailored its communication outputs to reach target groups in different ways, focusing on their needs and levels of interaction (e.g. awareness, engagement, and cooperation).

While ECDC continued to receive attention in the media, social media and through its websites, a downturn was noted in some of the communication indicators, as expected, and as a natural result of the evolution of the COVID-19 pandemic and other public health issues during the period 2020–2022. Nevertheless, all indicators remained higher than pre-pandemic levels.

Risk communication

On the occasion of the Cervical Cancer Awareness Month, World Tuberculosis Day, World Hepatitis Day, World Hand Hygiene Day, World Field Epidemiology Day, World Food Day, World Polio Day, Flu Awareness Week, European Immunization Week and World AIDS Day, ECDC took the opportunity to inform its target audiences (general public, policy-makers, healthcare professionals and the media) of the Agency's work and latest data, and to shape the respective risk communication messages. To support world health days, ECDC developed risk communication materials and campaigns, using traditional media, social media, videos, toolkits, infographics, and other content types that were shared with partners and stakeholders across the EU and could be easily adapted to local languages and practices. As in previous years, in collaboration with the WHO Regional Office for Europe, ECDC published joint communication outputs on TB and HIV/AIDS.

European Antibiotic Awareness Day (EAAD) was marked on 20 November 2023 with a digital campaign[13] and in partnership with the World AMR Awareness Week. A digital event[14] was held on 17 November, involving more than 480 participants, bringing together experts from the human and animal health sectors, as well as representatives from patient and professional organisations. The focus of the 2023 campaign was on the AMR targets for 2030, established in the recently adopted Council Recommendation on stepping up EU actions to combat antimicrobial resistance in a One Health approach.

[13] https://antibiotic.ecdc.europa.eu/en/european-antibiotic-awareness-day-eaad-2023
[14] https://www.youtube.com/watch?v=QWHcRO9Is4A&t=5392s

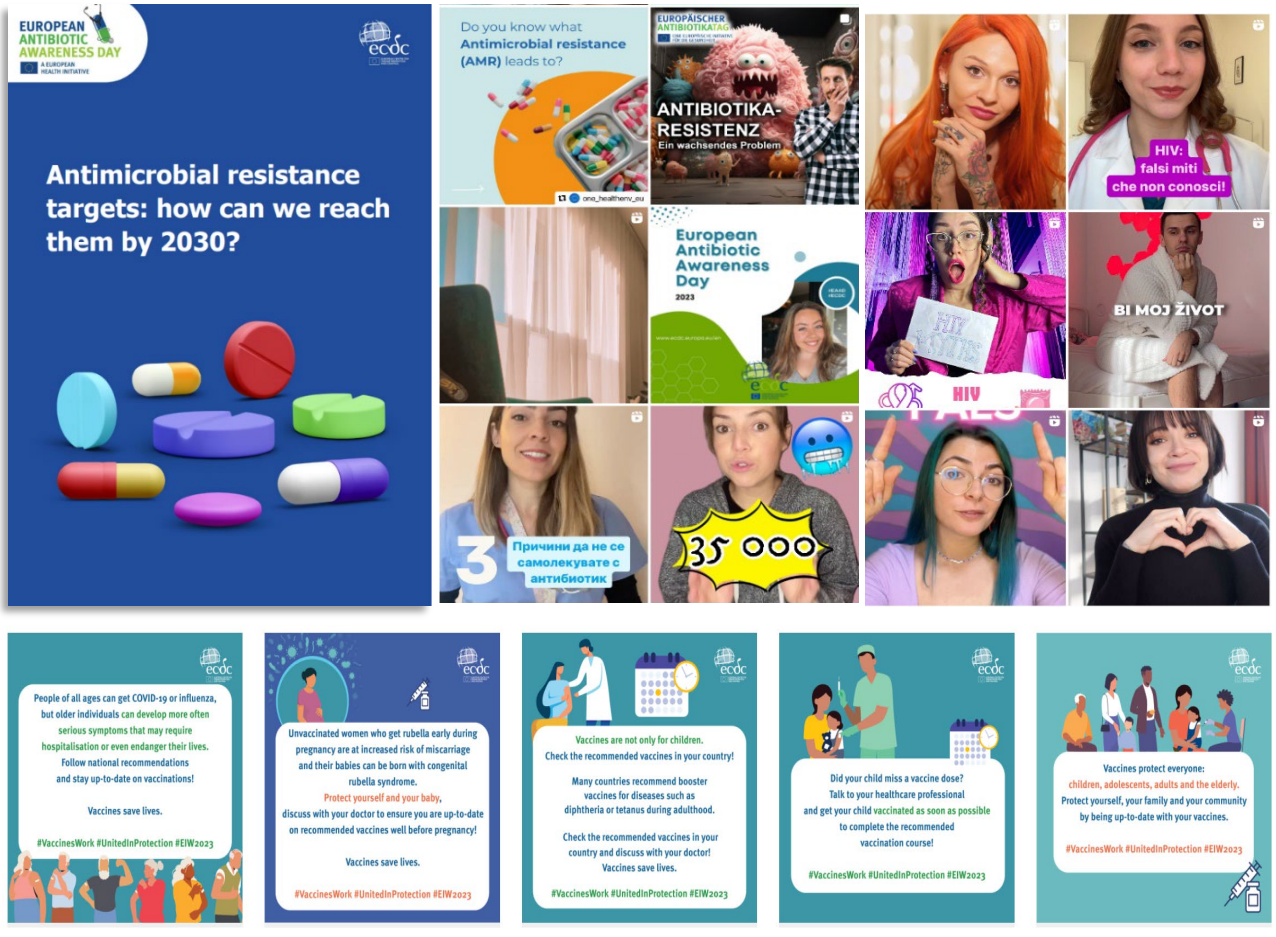
A total of 39 social media influencers from 26 EU/EEA countries collaborated to highlight key EAAD messages on the prudent use of antibiotics and antibiotic resistance in their national languages, accounting for 124 publications, a reach of 1.27 million and 1.68 million impressions. A new patient story, highlighting the issues posed by antimicrobial resistance and the importance of keeping antibiotics working, was published on the EAAD website, and shared widely in media[15].

Other activities included the publication of editorials in main national media across the EU/EEA, development of infographics, an AMR brief (PDF and interactive publication), web updates, and a global Twitter storm together with partners across the globe. As in previous years, a communication toolkit was shared with partners and stakeholders at the beginning of November, including the latest data and editable material.

Similar campaigns were developed ahead of the respiratory viruses' season, highlighting the importance of vaccination against influenza and COVID-19, as well as other non-pharmaceutical interventions, and ahead of World AIDS Day, discussing the latest data and myths connected to HIV/AIDS. In both instances, collaboration was arranged with social media influencers, for respiratory viruses (11 influencers, 41 publications, 246 thousand reach, 355 thousand impressions), and for HIV/AIDS (20 influencers, 68 publications, 2 million reach, 2.5 million impressions).

Training courses with a risk communication component were also implemented as part of the EU Initiative on Health Security and the ECDC Fellowship Programme training module on management, leadership and communication in public health. These training courses included a theoretical base, and placed the participants in scenarios where they needed to apply key risk communication principles to address a wide number of target groups.

Figure 7. Examples of risk communication content



[15] https://antibiotic.ecdc.europa.eu/en/ecdc-patient-story-areti

Press and media

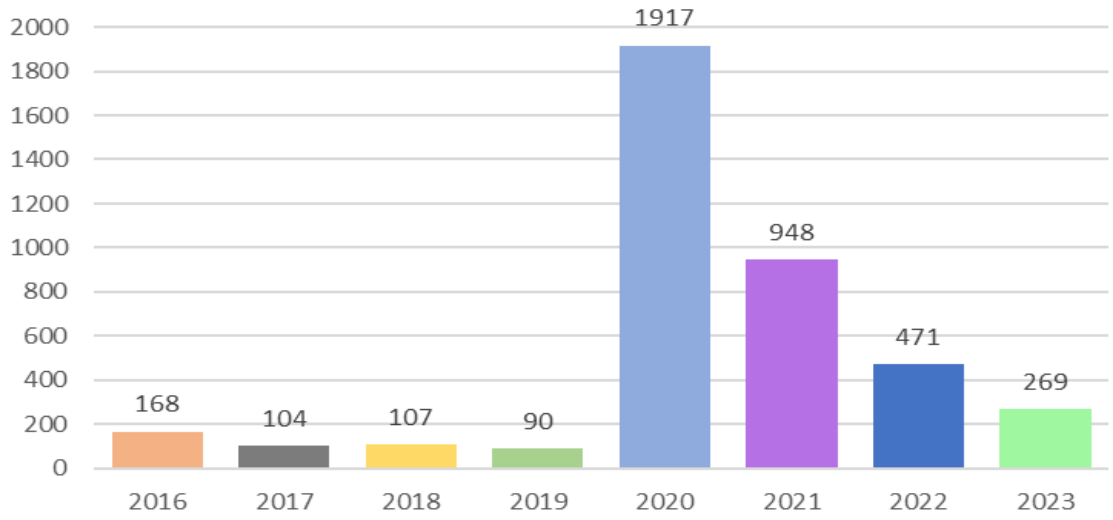
In 2023, ECDC continued to engage with journalists across the EU and internationally regarding antimicrobial resistance, avian influenza, mosquito-borne diseases, sexually transmitted infections, HIV, and vaccination, amongst other topics.

ECDC's Press Office received 269 requests (43% fewer than in 2022) from various media sources. These requests ranged from interviews with experts to written replies. During the year, experts gave 86 media interviews. The requests originated from a wide range of sources – from major international news outlets and wire agencies to fact-checking organisations. Throughout the year, ECDC responded to queries from Politico, AFP, ANSA, BBC, Euractiv, Kathimerini, and Deutsche Welle.

ECDC was continuously present in mainstream media during 2023, garnering a total of 8 216 references in high-quality European and international media. Most of the coverage was neutral or positive and included content related to COVID-19, vaccination issues, mosquito-borne diseases, food- and waterborne diseases, and AMR. A high volume of articles and other outputs were published in Italy, Greece and Spain.

In 2023, ECDC held seven press conferences, with journalists participating from most EU/EEA countries. These press conferences focused on topics such as TB, prevention and control of infectious diseases among people who inject drugs, measles, polio, mosquito-borne diseases, respiratory viruses, AMR and HIV/AIDS. Furthermore, ECDC hosted three media visits, including one for Croatian media, another for Polish media and one covering several EU countries. In total, 52 journalists attended.

Figure 8. Number of media requests received per year



Social media

The number of followers on ECDC's corporate X (formerly Twitter) account (@ECDC_EU) decreased by 1 242, down to 104 522 in 2023 from 105 764 in 2022. ECDC's outbreaks X account (@ECDC_Outbreaks) also saw a decrease, losing 186 followers. Other ECDC X accounts (e.g. flu, HIV/AIDS, EAAD, ESCAIDE) saw small increases. ECDC currently has 162 783 followers across nine X accounts, which represents a 0.6% decrease in following for 2023.

Reach and impressions in X dropped significantly, given the overall privacy and technical changes in the platform as well as their impact on the algorithm and user behaviour. The top ECDC content in the platform included COVID-19 lessons learned (84 000 impressions), mosquito-borne diseases (48 000), COVID-19 and variants update (47 000), European Immunisation Week (40 000 organic and two million from paid promotion), and World Sexual Health Day (33 000).

The number of followers on the ECDC Facebook page decreased slightly, amounting to 273 209 (0.05% decrease). Most of the ECDC Facebook followers are from Germany, Greece, Italy, Portugal, Romania and Sweden. A total of 206 posts were published on Facebook (1% decrease), reaching over 21 million users (50% increase). The top content on this platform included the EPIET module in Lisbon (387 thousand impressions), World Pneumonia Day (56 000), mosquito-borne diseases (37 000), COVID-19 surge in China (37 000), and back to school information (37 000).

In 2023, there were 202 LinkedIn page updates (39% decrease), reaching 1.5 million users, gaining 53 000 clicks (15% increase), and 25 000 reactions (25% increase). The follower base increased from about 51 000 to over 62 000. The top performing posts in this platform were the ones related to the start of the mosquito season (60 000 reach, 1 200 reactions, 21 comments, 315 shares, 2 400 clicks), a one health infographic (44 000 reach, 1 130 reactions, eight comments, 171 shares, 1 190 clicks) and the EAAD-related messages (28 120 reach, 954 reactions, six comments, 212 shares, 999 clicks).

YouTube saw an exponential increase in followers in 2023, from 3 232 to 46 251. Instagram also had an increase of 982 followers, amounting to 1 691 in total.

Figure 9. Changes in followers across social media accounts

Channel	Accounts	December 2022 Followers	December 2023 Followers
Twitter (followers)	ECDC_EU ECDC_TB ECDC_Flu ECDC_VPD ECDC_HIV/AIDS ECDC_Outbreaks EAAD_EU ESCAIDE ECDCPHT	105 764 (+11 204) 3 840 (+201) 7 869 (+285) 6 720 (+257) 3 403 (+218) 25 881 (+2399) 4 638 (+270) 2 586 (+314) 3 196 (+369)	104 522 **(-1 242)** 3 968 (+128) 7 959 (+90) 6 708 (-12) 3 545 (+142) 25 695 (-186) 4 681 (+43) 2 762 (+176) 3 439 (+243)
Facebook (followers)	ECDC ESCAIDE EAAD	273 361 (+8922) 1 682 (+312) 14 210 (+396)	273 209 (-152) 1 574 (-108) 13 926 (-284)
LinkedIn (followers)	ECDC	51 029 (+9 381)	**61 944 (+10 915)**
YouTube (subscribers)	ECDC	3 232	**46 251 (+43 019)**
Instagram **Threads**	ECDC.EU	709 n/a	**1 691 (+982)** 203
Spotify	ECDC on Air	17.2K plays 29 episodes	**35K plays (+17.8K)** 45 episodes (+16).

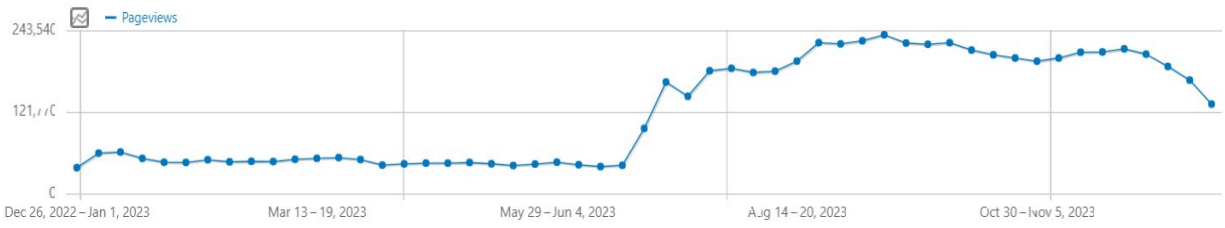
Websites

In 2023, ECDC's website had 6 493 482 page views (43% increase, possibly partially influenced by a change in the analytics tool). Traffic peaked in September, with particular interest in SARS-CoV-2 variants of concern, and the weekly COVID-19 Country Overview reports. ECDC's website recorded 1.6 million sessions from users in European countries (6% decrease compared to 2022). Overall, the website traffic remained stable.

Other topics of interest included the weekly West Nile virus updates, AMR, dengue overviews, Ebola, mpox, and the regular Communicable Disease Threats Reports. The top five countries visiting the ECDC website were the United States, the United Kingdom, Germany, Italy and India.

There were 267 490 downloads registered, with COVID-19 and antimicrobial resistance reports and data being the most popular.

Figure 10a. Page views on ECDC website



The European Vaccination Information Portal (EVIP) also had a considerable increase in traffic compared to 2022, with 677 220 page views in 2023 (88.5%). The top content viewed on this website includes COVID-19 (English), human papilloma virus (HPV) (Greek and Bulgarian), whooping cough (Croatian and Czech), measles (Bulgarian) and influenza (English). In 2023, many visits emanated from Bulgaria, Greece, Hungary, Romania and Slovakia.

Figure 10b. Page views on EIVP

Audiovisuals

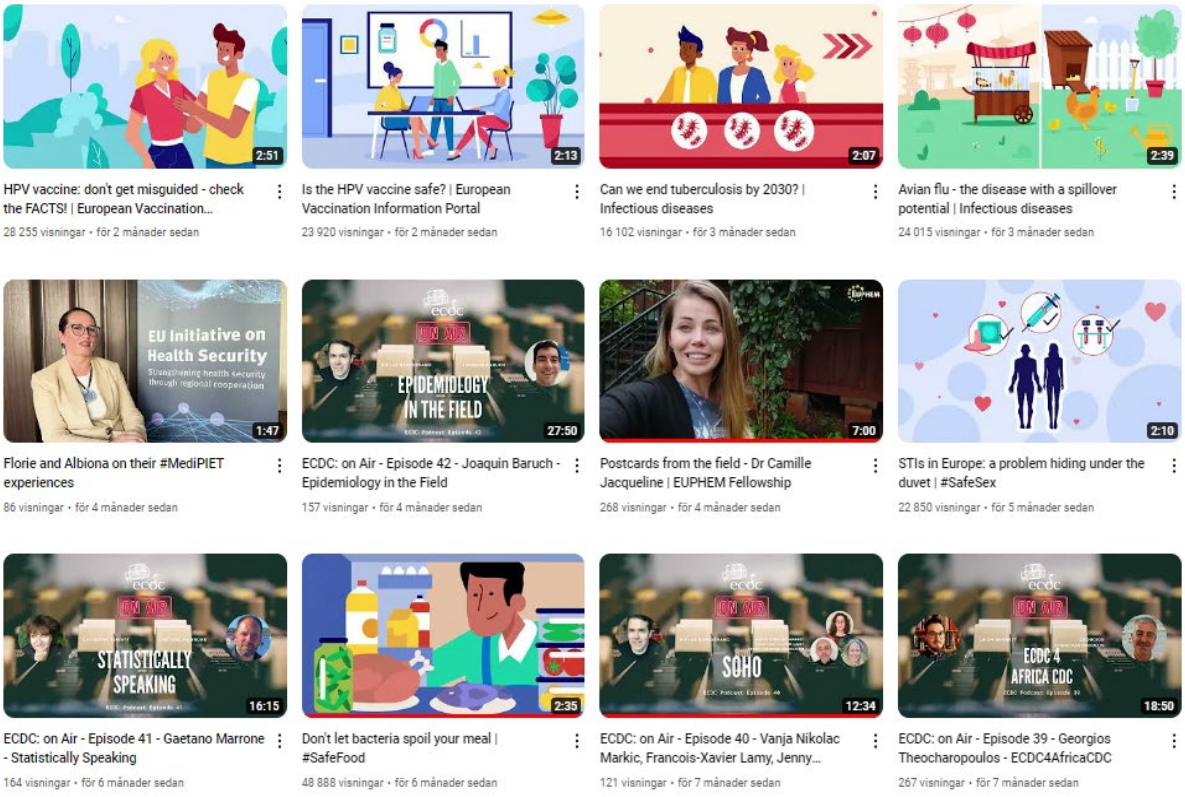
In 2023, ECDC published 90 infographics, posters and animations on its social media channels (32% increase), covering topics such as food-borne diseases, mosquito-borne diseases, COVID-19, antibiotic resistance, vaccination, HPV, hand hygiene, and ESCAIDE. Some of these materials were translated and made available on ECDC's website. Editable versions were also shared with partners and stakeholders across the EU.

ECDC produced 62 publicly-available videos on YouTube, and 58 videos for internal use (e.g. internal campaigns, video statements for events outside of ECDC), amounting to a total of 120 videos produced (3% increase compared to 2023). The ECDC videos published on YouTube received 2.1 million views, compared to two million views in 2022. The subscriber count at the end of 2023 was 43 000, increasing from 3 240 at the end of 2022. This is mainly due to paid promotion efforts.

In August 2021, ECDC began publishing a podcast 'ECDC: On Air'. So far, 45 episodes have been aired, gathering 35 000 plays across platforms, with 16 being published in 2023. 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 to date relate to epidemic intelligence, *Salmonella*, vaccination, mosquito-borne diseases and avian influenza.

Finally, three digital events were hosted by ECDC with a focus on AMR (783 participants), HIV stigma (190 participants) and vaccination (282 participants).

Figure 11. Selection of videos published in 2023



Internal communication

In 2023, 345 news items and pages (13% decrease) were published on the Information Centre. The most popular pages were related to electronic workflows, guidance and templates, year-end calendar, procurement and the internal 'Meet Your Colleagues' series. Other internal communication activities included the publication of 23 issues of 'On the Spot', ECDC's internal newsletter, the preparation and implementation of staff meetings, and highlights from over 40 Director's engagements.

Special focus continued to be given to ECDC's strengthened mandate and the updated ECDC Strategy 2021–2027, through an internal communication campaign supporting a transformational programme called ASPIRE. The campaign included 20 videos, 16 related podcast episodes, 17 news items, 15 'Meet Your Colleagues' features, 10 town hall meetings, 10 newsletters, an external stakeholder event, three 'pulse checks' and eight information pages.

In 2022, a new Information Centre was launched to replace the previous intranet as one of the hubs of the new Enterprise Content Management Platform. A usability study for this tool was conducted in 2023, looking at needs for improvement in terms of content and user experience. The findings of the study will inform potential changes to the navigation and other specific areas of the platform throughout 2024.

Other information sharing mechanisms and outputs

ECDC received 571 requests for information through its information mailbox. The Communication Section organised four study visits for groups including Europe Direct, Red Cross Nursing College, Europa Experience and Karolinska Institutet, and two information stands, one at the European Scientific Conference on Applied Infectious Disease Epidemiology (ESCAIDE) and another one at the European Congress of Clinical Microbiology and Infectious Diseases (ECCMID). Finally, a digital meeting of the ECDC NFPs for Communication was held in March, and an on-site meeting in October, marking the first face-to-face meeting of this network of communicators since before the pandemic.

Strategic objective 5. Performance indicators

KPI	Baseline	Target	Means of verification	Frequency of verification	Result 2023
Proportion of key processes reviewed.	28%	20%	Process landscape	Annual	36%
Proportion of activities implemented from the annual work programme.	89%	85%	MIS	Annual	90%
Percentage of indicators achieving target.	60%	90%	Consolidated Annual Activity Report	Annual	55%
Percentage of audit recommendations implemented.	67%	90%	Internal Control Excel file	Annual	67%
Percentage of the Internal Control Framework implemented.	80%	100%	ICF annual review	Annual	84%
Timeliness of recruitment process.	9.9 weeks	Maximum 12 weeks.	HR data	Annual	10.8 weeks
Number of (short-term and long-term) sick leaves.	1.39% (short-term) 1.32% (long-term)	- <2% (short-term) - <3% (long-term)	Allegro absence data	Annual	1.29% (short-term) 1.60% (long-term)
Average vacancy rate for Temporary Agent posts (post occupied).	4.2%	<5%	HR data	Annual	1.8%
Number of media clippings and media requests.	471 media requests 24 460 media clippings.	10% increase	Media monitoring report from external contractor, requests received on the press inbox.	Annual	269 media requests (60% decrease) 8 216 media clippings (43% decrease).
Web statistics - page views	4 515 711	10% increase	Google Analytics/Matomo	Annual	6 493 482 page views (43% increase)
- website sessions	2 195 740	7% increase			2 774 234 sessions 267 490 document downloads.
- document downloads	247 347	7% increase			(26% increase)
- returning visitors.	NA[16]	At least 40%			8% increase
Stakeholder engagement: number of actions in which communication stakeholders are engaged:			ECDC website, Information Centre, EAAD statistics.	Annual	
- NFP meetings	One NFP meeting.	One NFP meeting.			Two NFP meetings.
- Meetings ahead of EAAD	13 meetings with stakeholders	At least eight stakeholder meetings			16 meetings with stakeholders.
- Digital and on-site events/visits	Five events/visits	At least three digital or on-site events/visits.			Seven events/visits
- Information stands.	0 stands	At least three information stands.			Two stands.
Social media statistics: - Twitter followers for the ECDC corporate account - Twitter followers for the outbreaks account - followers on Facebook. -followers on LinkedIn. -followers on Instagram.	104 522 25 695 23 209 61 944 1 691	20% increase	Social media	Annual	2.3% increase
Communication campaigns.	Eight	At least five	ECDC website	Annual	13
Audio-visual content.	226 audiovisual outputs.	10% increase	Social media and ECDC website.	Annual	12% increase

[16] Not possible to assess the number of returning visitors in 2023 due to the change to the analytics tool.

KPI	Baseline	Target	Means of verification	Frequency of verification	Result 2023
Internal communication: - news items - newsletters - staff meetings - views for the top five pages of the year.	397 24 6 3112	At least 250 At least 20 At least five At least 1 500 views for the top five 2022 pages together.	Google Analytics and internal communication inboxes.	Annual	345 23 14 2492
Satisfaction of members of the ECDC governance bodies with the cooperation and coordination support offered by ECDC[17].	AF - 93% (28 replies) NC - 75% (20 replies).	75%	Stakeholder survey.	Biennial	AF - 93% NC – 75% (survey conducted in 2022).

[17] In order to shorten the questionnaire for Directors of Coordinating Competent Bodies and the Management Board, this question was not included.

6. Support services

6.1 Digital Transformation Services (DTS)

Digital Transformation plays an important role in enabling ECDC's core work in disease surveillance and response and epidemic intelligence. In addition, ECDC depends on IT systems to support its administrative processes.

2023 was the year of transition to the new Target Operating Model 2023–2027, which aims to improve the delivery of digital solutions with better software quality and time to delivery. The transition to agile development became possible with the definition of the necessary processes, governance, systems and tools. The IT workplan was reorganised and prioritised as a backlog for multiple DevOps teams.

Following the award of a new generation of framework contract in 2022, the next steps were to issue the necessary specific contracts, set up secure environments and tools and adapt the reporting and key performance indicator (KPI) practices.

Several milestones were also achieved with new IT Solutions and further developments. All Member States were off-boarded from the European Federation Gateway Service (EFGS), which was subsequently deactivated and placed in stand-by, ready to scale up in the event of a new health threat. The maintenance of the EFGS was handed over to the main ECDC contractor. A crowdsourcing platform to perform systematic literature reviews was also set up as a proof of concept. The Country Overview Profile (CoSIT) was completed. The ECDC surveillance portal EpiPulse was further developed towards the release of new modules mid 2024 (Epipulse cases and TALD). ECDC participated in the 'EHDS2 Pilot', assessing the feasibility of using EHDS to monitor AMR. Finally, good progress was recorded with the PRIME project to replace and integrate several legacy systems in the area of Management Information Systems by early 2024.

During 2023, ECDC also upgraded existing platforms, such as ECDC's HR Management Information System, and all outdated SharePoint solutions such as the PHE intranet, the EPIS and Project Server.

ECDC also initiated the overhaul of several systems, including the Early Warning and Response System (EWRS) for which an architectural review was conducted and long-term plans were made, as well as 13 different feasibility studies and proof of concepts addressing new needs, such as a new microbiology tool chain, the management of conflicts of interest, identity and access management, process management, online proctoring services and a sandbox for generative AI.

The measures taken to mitigate the risks of cybersecurity and information security incidents were also assessed in an audit by the Commission IAS service, which confirmed ECDC's good security situation and provided useful recommendations on how to improve even further.

Table 3. List of mission-relevant IT solutions (not exhaustive)

System application	Description
Enterprise Content Management Platform (ECMP)	The Enterprise Content Management Platform is a unified Microsoft 365 based platform for communication, collaboration and knowledge sharing, and for storage of ECDC's documents and records. It provides a single, unified search experience (Microsoft Search) supported by metadata-tagging and terminology management.
Early Warning and Response System (EWRS)	A rapid alert system that supports critical communication on serious cross border health threats, in accordance with Regulation (EU) 2022/2371, 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 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 (MB and AF). Currently ECDC manages circa 30 extranet sites. In 2023, the migration of the extranets to ECDC Collaboration Hub (part of the ECMP platform) continued, making new functionalities available and bringing improvements to the user interface or archiving older content to the ECMP Archives Centre. It is anticipated that migration will be completed in 2024 and current extranets will be phased out.
ECDC Library	A hybrid service owned and managed by experienced library staff encompassing both desktop electronic resources and a physical library service. The physical library facilitates access to the print collection as well as to a range of other resources - dedicated workspaces, administrative tools and a collaboration space where colleagues can come together to discuss ideas and present information.

System application	Description
ECDC Virtual Academy (EVA)	Launched in 2014, EVA is the learning management system supporting ECDC public health training activities. It provides access to e-learning, 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 ECDC teams and experts.
ECDC websites	The ECDC websites (ECDC corporate site, ESCAIDE, EAAD and European Vaccination Information Portal) support the communication of ECDC's activities and scientific publications to external audiences.
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.
EpiPulse (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 (TTT)), providing new functionalities and seamless access to data in a single platform. The portal facilitates the 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 (EFGS)	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. The EFGS was deactivated in 2023 following the off-boarding of all participating Member States and configured in stand-by mode to scale up in case of a new health threat.
Eurosurveillance publication platform and website	The platform allows publication (content management), storage and dispatch of articles and related information to various repositories and databases as well as the web publication of Eurosurveillance, a European journal on communicable diseases ranking among the top-10 journals in its field. In addition, the electronic submission system is a separate platform where authors can upload articles that are then processed and monitored by editors, based on strict workflows that entail internal and external evaluation (peer review).
Management Information System (MIS)	Internal system used to plan and monitor the implementation of ECDC's annual work programme. This system is to be replaced with a new solution called PRIME (Planning, Resources, Information, Monitoring, and Execution).
PHE Intranet (EOC)	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).
Scientific Advice Repository and Management System (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 system (SRM)	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 highly interactive, graphical access to surveillance data. It is accessible via ECDC's web portal. The Atlas has been evolving 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.
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 2023, 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, legal services and procurement.

During the period, ECDC effectively finalised over 315 procurement exercises, managed a meetings plan consisting of 235 meetings (54 with grant funding), organised 597 missions (including core, grant funded and Learning and Development activities), and implemented 97% of its budget; all with the able support of RMS. In addition to the operational support tasks, several projects were undertaken to enhance the Centre's performance, effectiveness, and efficiency in future periods:

- Corporate Services: progress towards Eco-Management and Audit Scheme (EMAS) certification (approval received in January 2024), pursuit of the workplace transformation project (including enhanced activities in the area of staff collaboration), renewal of cleaning, security, travel and events services, and logistic services contracts.
- Finance and Accounting: asset management framework finalised, improvements in financial transactions processing.
- Legal Services: implementation of the expanded independence policy for staff further progressed.
- Procurement: increased use of Commission eProcurement tools with implementation of the public procurement management tool. Updating the internal ECDC processes to accommodate the tool and simplify its use.
- Cross-Centre: deployed the new Innovation Framework, implemented a new Business Continuity Management System (BCMS).

Figure 14. Budget execution

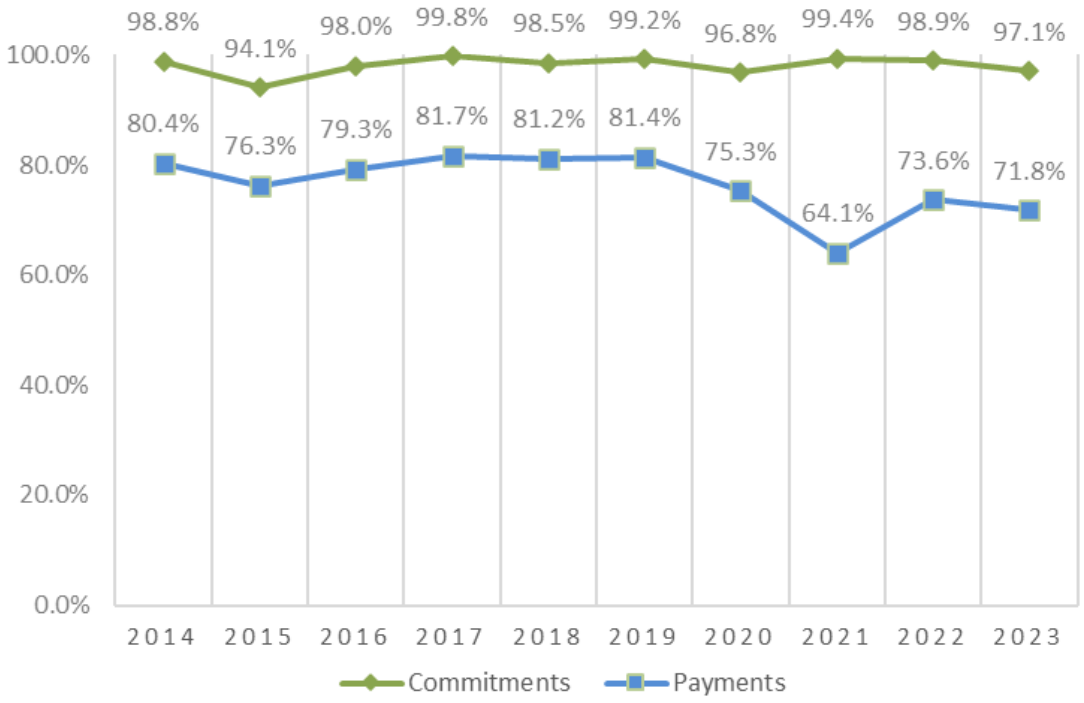
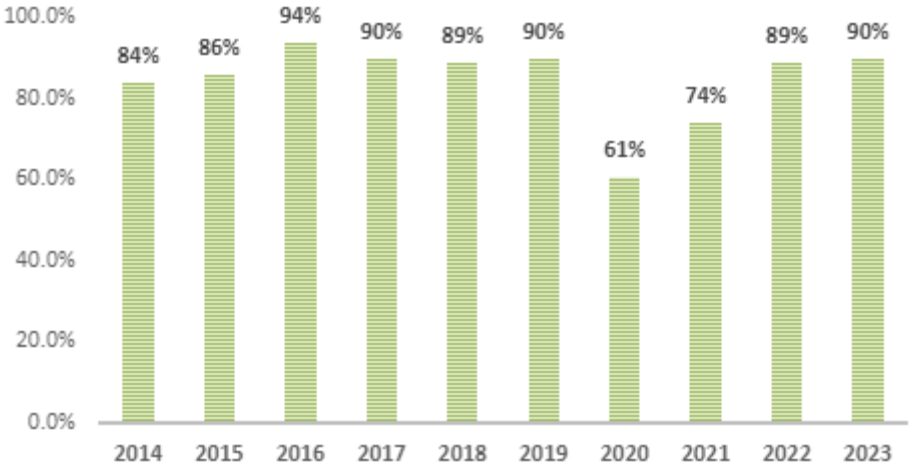


Figure 15. Work programme implementation



Support services: Performance indicators

KPI	Baseline	Target	Means of verification	Frequency of verification	Result 2023
Quality of software products.	A total of 2/26 IT products failed the acceptance criteria (EpiPulse, FluNews)	For IT products with BIP 1 or 2: 0 Critical and 0 High	Azure	Annual	Measurement of this performance indicator was discontinued in 2023 and replaced by measurement of 1) Code quality (11% increase), 2) Mean Time to Recovery (10% increase) and 3) Change success rate (100%).
Availability of hosted applications under SLA.	08:00-18:00: 99.95% 24/7: 99.91%	99.0%	ECDC Infrastructure Service Management Report	Annual	08:00-18:00: 99.92% 24/7: 99.91%
Business owners' satisfaction with the DTS Unit services.	41%	At least 57%	End users' satisfaction survey	Annual	69%
Proportion of Information and Communication Technology Front-Office requests and incidents resolved, as per SLA.	Requests: 96.10% Incidents: 96.15%	Above 95%	ECDC Infrastructure Service Management Report	Annual	Requests: 95.93% Incidents: 95.70%.
Digital literacy	68%	70%	Microsoft Adoption Score	Annual	64%
Percentage of feasibility studies performed according to the plan.	Not reported.	100%	Project server	Annual	100% (13 feasibility studies completed out of 13 planned).
Procurement/grant procedures launched on originally planned date.	51.7% launched on the originally planned date.	Above 80%	MIS	Annual	60%
Procurement/grant procedures finalised and contracts signed on originally planned date.	36.4% signed on the originally planned date.	Above 85%	MIS	Annual	62%
Percentage of changes made to the procurement plan throughout the year.	21%	Less than 20%	MIS	Annual	42%
Proportion of submitted and reviewed annual and specific declarations of interest: - Management Board - Advisory Forum - Senior management - External experts at	-97% -97% -100% -95%	100% for each category	Legal Services Section files	Annual	-97% - 97% -100% - 95%

KPI	Baseline	Target	Means of verification	Frequency of verification	Result 2023
meetings - External experts for RRA.	-100%				- 100%
Proportion of replies to requests for Access to Documents (ATD) processed within the legal deadline.	100%	100%	Legal Services Section files	Annual	100%
Percentage of confirmatory requests responded to within the legal deadline.	N/A - no confirmatory applications were received.	100%	Legal Services Section files	Annual	N/A - no confirmatory applications were received.
EU Eco-Management and Audit Scheme (EMAS).	90%	100%	EMAS Environmental Statement.	Annual	EMAS in certification process.
Percentage of meetings launched on planned launch date.	75%	80%	MIS	Annual	Data unavailable
Percentage of changes made in the meeting plan throughout the year.	33%	20%	MIS	Annual	Data unavailable
Budget implementation of the Centre - C1 Commitment rate.	98.86%	100%	ABAC WF	Annual	97.14%
Percentage of invoices paid within the time limits of the ECDC Financial Regulation.	98.2%	99%	ABAC WF	Annual	96%
Rate of cancellation of payment appropriations.	9.41%	2%	ABAC WF	Annual	5.75%
Rate of budgetary outturn.	17.41%[18]	5%	Budget outturn account.	Annual	11.24%[19]

[18] Due to further cancellations of payment appropriations within the HERA Incubator WGS infrastructure support grant agreements, which were beyond ECDC's control, the Agency cancelled more than 5% of its payment appropriations in 2023.
[19] As above.

Part 2a. Management

1. Management Board

During the course of 2023, the MB approved the ECDC Long-term Surveillance Framework and the memorandum of understanding between ECDC and the European Aviation Safety Agency (EASA). The Board also endorsed the Final IAS Internal Audit Plan 2022–2024 and the ECDC Anti-Fraud Strategy 2024-2026. In its June meeting, the Board approved the amended ECDC Strategy 2021-2027. In November, the Board adopted the revised Strategy Implementation Roadmap through written procedure, following discussions during MB59. The Management Board Working Group, set up in 2022 and tasked to analyse ECDC strategic documents and their alignment with the EU Health Union legal package, held four online meetings in 2023 to discuss the amended ECDC Strategy and the revised Strategy Implementation Roadmap.

In accordance with legal obligations, the MB approved the Consolidated Annual Activity Report 2022 and the final annual accounts for 2022. The MB also approved the ECDC Single Programming Document 2024-2026 and the Budget and Establishment Table 2024. In addition, the Board members discussed the draft ECDC Single Programming Document 2025–2027.

No risks or control issues were brought before the MB for discussion in 2023.

2. Major developments

The ongoing implementation of the revised ECDC Founding Regulation and the amended mandate, in close collaboration with the Member States and the European Commission, had consequences for ECDC's work in 2023. Following the post-COVID period, ECDC continuously provided scientific advice, risk assessments and support to the Commission and EU Member States throughout 2023 as part of the Centre's core mandate. In addition, work related to COVID-19 vaccines continued – e.g. monitoring vaccine effectiveness and impact, providing scientific advice on new questions that could arise around COVID-19 vaccination strategies, and supporting countries in reaching their vaccination coverage targets and closing possible immunity gaps in the population. On 8 March 2023, ECDC's Director participated in a workshop on EU Crisis Preparedness and Response before the Special Committee on the COVID-19 Pandemic (COVI)[20] of the European Parliament in Brussels. ECDC's Director gave a presentation on how to better prepare for future health emergencies. During May 2023, ECDC published 'Lessons learned from the COVID-19 pandemic'[21]. The document was a compilation and presentation of the lessons identified from public health stakeholders who responded to the COVID-19 pandemic. Its intended use was to serve as input for countries revising their pandemic or emergency preparedness plans.

In the light of the Commission's programme for strengthening infrastructure and the capacities required for the swift detection and surveillance of SARS-CoV-2 variants in the EU and its neighbourhood, ECDC took the lead in the implementation of whole genome sequencing (WGS) and Reverse Transcription Polymerase Chain Reaction (RT-PCR) infrastructure, capacity-building and direct support activities for EU Member States. This work aimed to enhance Member States' ability for early detection and monitoring of SARS-CoV-2 variants. ECDC supported the development of national sequencing infrastructure in Member States and provided capacity-building through standardisation, assay validation, and training. ECDC and DG SANTE continued working to secure additional funding for this initiative. The work undertaken throughout 2023 will lead to enhanced genomic-based infectious disease outbreak investigation, surveillance, and preparedness for future pandemics.

As the health systems in EU Member States gradually returned to a routine operations mode, work on the priorities that were designated by European Commission President, Ursula von der Leyen, in 2019 resumed at full speed during 2023: e-health and the European Health Data Space to promote health data exchange; the implementation of the European 'One Health' Action Plan against AMR and cooperation at international level on antimicrobials; as well as actions to strengthen the performance of vaccination programmes in the EU, including addressing vaccine hesitancy. These issues will remain among ECDC's highest priorities in the years to come.

[20] COVI is composed of 38 members of the European Parliament and was established in March 2022. Its mandate was extended until summer 2023. COVI is tasked with overseeing lessons learned from the COVID-19 pandemic and making recommendations for the future. The Committee's work is focused on four areas: public health; a coordinated response respecting democracy and fundamental rights; societal and economic impact; and the EU role in global health.

[21] https://www.ecdc.europa.eu/en/publications-data/lessons-covid-19-pandemic-may-2023

3. Budgetary and financial management

Fund source C1 (current year appropriations)

Budget execution in terms of commitment appropriations at year-end reached 97.09%, equivalent to EUR 87.6 million.

Budget execution in terms of payment appropriations at year-end reached 71.79%, equivalent to EUR 64.7 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 7.8 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 22.9 million to 2024 (compared to EUR 25.2 million which was carried forward to 2023).

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 83.9%, EUR 21 159 334 was paid from EUR 25 218 921 carried forward to 2023.

Procurement procedures

During 2023, a total of 222 contracts and grant agreements were concluded with ECDC:

- In all, 12 direct contracts with a total value of EUR 384 418.
- In all, 42 ECDC framework contracts with a combined budget ceiling of EUR 111 677 900. (In order to present a more accurate total contract value amount, the value of framework contracts in cascade has been aggregated.)
- In all, 101 specific contracts (signed contracts under framework contracts) with a combined budget of EUR 19 017 618.91.
- In all, 11 framework partnership agreements (grant procedures), 54 specific grant agreements with a total ECDC contribution amounting to EUR 3 104 342.65.

ECDC also signed two inter-institutional and inter-agency contracts. These are contracts procured by other entities under which ECDC may also call for tender.

Summary information on budgetary operations for the year

The core budget of the Centre for 2023 (EUR 90.2 million) decreased by 9.7% compared to 2022 (EUR 99.9 million). The Centre paid EUR 251.21 interest to suppliers for late payments (>30 days) in 2023.

For additional information see Annex 8 - Final annual accounts 2023.

Controls and control results

A short description of the controls and the control results can be found below in relation to the internal control objectives mentioned in ECDC's Financial Regulation, Article 30.2.

A number of control results are reported to the Director every year for ongoing and/or separate assessment 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 at 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 for possible remedial action;
- Status of internal control and quality weaknesses reported;
- Results of the ex-post controls for the grant verifications;
- Summary of the interactions with OLAF, European Ombudsman and Data Protection Officer;
- Analysis of the audit observations/recommendations from the Internal Audit Service and the European Court of Auditors to identify internal control deficiencies, including monitoring ECDC's implementation of the corrective actions being implemented in a timely manner.

Legality and regularity of the underlying transactions

ECDC's budget is implemented through four main 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 related to budgetary implementation at ECDC is to ensure compliance with the regulations in place, thereby ensuring the legality and regularity of the underlying transactions.

The main ex-ante controls to be performed are described in the internal procedures (IP). The most important of these are the IP on the Advisory Committee for Procurement, Contracts and Grants (CPCG); the IP on Procurement; the IP on Contract Management; the IP on Grant Management, and 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. The 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 2022, two grants were selected for verification and the results of the verifications were concluded in 2023. In 2023, another two grants were selected, and the draft results of the verifications have been received. The final results are expected to be established in the first quarter of 2024.

The sample of verifications performed per year is not representative of the total amount of grant agreements or directly linked to the payments made for 2023. 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 2024–2026 and was approved by the MB in November 2023. It is based on a fraud risk assessment and includes a number of activities, such as 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 2023 and the implementation of the action plan is monitored.

ECDC has an OLAF coordinator who is responsible for coordinating issues regarding fraud and irregularities and 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 2023, the total net value of ECDC's fixed assets was EUR 1.8 million. ECDC's assets are managed in the ABAC Assets IT tool. A physical inventory is performed once every year. The most recent physical inventory for both IT equipment and furniture was performed in 2023. Overall, it is concluded that the most likely error for assets is below the materiality threshold. However, ECDC is implementing improvements to the procedures in place.

Information at ECDC is safeguarded through the ECDC Information Security Management System (ISMS). ISMS covers the daily activities of the IT Security team, running security processes (for governance, risks, compliance and technical security) and managing security technologies/tools for information security and cybersecurity protection. Critical information and IT assets are identified through established business impact assessment process and registered with associated ownership in the Information Asset Catalogue, Security Asset Register and Data Protection Notification tool. Information security is managed by the IT Security Officer, IT infrastructure security is managed by the IT Security Operations Specialist and cybersecurity is managed by the Cybersecurity Architect. The responsibilities for the three areas are with the Digital Transformation Services Unit. The extended IT Security Team includes ECDC management and representatives from IT Operations, Legal, HR, Information Management and other security stakeholders. The overall coordination with the business units is ensured by the Security Authority Steering Committee, newly established in 2023. During 2023, ECDC continued to be a subject of interest for cyber-criminals and 'hacktivists', as seen in the different cyber-attacks on ECDC infrastructure and IT services. Continuous improvements to ISMS are being made in 2023 and are planned in 2024 to protect and safeguard the confidentiality, integrity and availability of critical information throughout its lifecycle and to protect network and IT systems and users of the systems.

Reliability of reporting

ECDC carries out financial reporting 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. The budget implementation reports are provided to the Audit Committee and MB in conjunction with the meetings held three times per year. These external reports are audited by the European Court of Auditors (ECA) and no material anomalies were noted for 2023.

Effectiveness, efficiency, and economy of operations

The effectiveness, efficiency and economy of operations is covered mainly by Part 1 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 are designed to optimise effectiveness and efficiency, by striking the right balance between the benefits of the controls, in terms of the legality and regularity of the underlying transactions, and their effectiveness and efficiency, taking into consideration the risks involved.

With regard to the effectiveness of the controls, the European Court of Auditors (ECA) has given ECDC a qualified opinion on the legality and regularity of the underlying transactions for parts of the 2022 accounts. However, as ECDC does not agree with the reasons given by the ECA for the qualification, and that no other indications were found to indicate that the controls in place were not effective, ECDC considers that, on the whole, the controls remain effective.

In terms of the efficiency and economy of the controls, no serious anomalies were reported.

The estimated costs of control for ECDC in 2023 are included in Table 4 below.

Table 4. Estimated costs of control 2023

Relevant control system	Ex-ante controls			Ex-post controls			TOTAL		
Title	**Estimated costs of control (EUR)**	**Funds managed (EUR)**	**Ratio (%)**	**Estimated costs of control (EUR)**	**Amount verified and/or audited (EUR)**	**Ratio (%)**	**Estimated costs of control (EUR)**	**Funds managed (EUR)**	**Ratio (%)**
Salaries and other entitlements	309 156	38 973 698	0.79%	-	-	0.00%	309 156	38 973 698	0.79%
Reimbursements	113 889	872 942	13.05%	-	-	0.00%	113 889	872 942	13.05%
Procurements	3 302 720	43 102 150	7.66%	-	-	0.00%	3 302 720	43 102 150	7.66%
Grants	799 433	2 956 113	23.69%	21 625	25 726	8.39%	722 058	2 956 113	24.43%
TOTAL	4 426 198	85 904 903	5.15%	21 625	25 726	8.39%	4 447 823	85 904 903	5.18%

The table is split according to the relevant control systems, based on how ECDC implements its 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 directly involved in the control systems are those working in the Resource Management Services Unit with accounting and financial management issues in the Finance and Accounting Section; the staff working on the management of salaries in the Human Resources Section; those working with the control of reimbursements in the Missions and Meetings Group of the Corporate Services Section and the Human Resources Section; the staff working with procurements and grants in the Legal Services Section and in the Procurement Section and the operational staff working directly with grants in the Fellowship Programme Group of the Public Health Training Section and the Microbiology and Molecular Surveillance Group of 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, 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 and/or C8 credits in 2023), 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 in the coming years. The cost of controls and the ratios are difficult to compare with other organisations. However, they are indicators to be used over time to monitor the efficiency of the controls in place.

As seen in Table 4, the ratio for the costs of ex-ante control for salaries and other entitlements is relatively low, mainly due to the rather large amount of total salary payments. The ratio is similar to that for 2022. The ratio for the costs of ex-ante controls for reimbursements has decreased compared to 2022, mainly due to the increase in the number of meeting reimbursements. Having said that, reimbursements are still time-consuming due to the large number of small individual payments made. The ratio for the costs of ex-ante control for procurements is closely linked to the number and types of procurements performed during the year in question. This year, the costs of control have decreased slightly in comparison with those for 2022, and the total value of procurements has also decreased, thereby leading to a higher ratio (7.66% in 2023, compared to 5.68% in 2022). Finally, the costs of control for grants have increased considerably compared to 2022. The ratio increased from 4.54% in 2022 to 24.43% in 2023. The large reduction in the amounts paid (from EUR 20.8 million to EUR 2.9 million) is mainly due to the European Health Emergency preparedness and Response Authority (HERA) incubator programme coming to an end.

4. 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. This ensures that a very limited number of people may act as authorising officers at ECDC.

The authorising officers by delegation can enter into budgetary and legal commitments and authorise payments. All budgetary and legal commitments above EUR 500 000 require the signature of the Director, while the delegations for the authorisation of payments are unlimited.

For the expenditure in 2023, the AODs signed a Declaration of Assurance to the AO for their area of delegated responsibility. No reservations were raised by the AODs.

5. Human resources management

Human Resources management supports 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 ECDC's mandate, at the beginning of 2021, the Centre received an additional 73 posts (both Temporary Agents and Contract Agents) for the years 2021–2024. Hence, similar to the years 2021 and 2022, 2023 was also characterised by a significant volume of recruitment following the increase in posts, but also related to a high number of replacement recruitments due to internal candidates taking up new posts (38% of the posts were filled by internal candidates). A total of 55 posts were filled during the year. Yet, despite the high number of recruitments, the Centre managed to keep the vacancy rate well below the 5% target at the end of 2023 with only 1.8% of the temporary agent posts vacant.

The year 2023 was the first in which the Centre was not in a constant crisis operation mode. With a new strategy being implemented, many new staff having entered the organisation, and internal staff having taken up new posts. ECDC also continues to operate a hybrid way of working. Consequently, in September 2023, a staff retreat was held with the aim of connecting staff and discussing the future ahead. To cater for, and support staff and managers through times of change, the HR function continued to provide support services to ensure the well-being of personnel with mindfulness training, coaching, and an observer training programme to further enhance a respectful working environment. To improve HR services in the long term, efforts were launched to improve quality in the recruitment process and strengthen the employer branding of the Centre.

The People@ECDC framework was introduced, with particular focus on staff's health and wellbeing, professional development, and promotion of a diverse and inclusive workplace. A first draft of the 'People Strategy' was developed. The strategy framework will guide the modernisation and consolidation of ECDC's HR management services and activities in the years to come. Individual projects within the framework are already underway, such as activities linked to health and well-being, diversity and inclusion and a training programme in the area of stakeholder management. Meanwhile, other projects were finalised in 2023, such as the development of the Competency Framework. A 360-degree feedback exercise also took place, involving all managers and staff in the Centre, and the outcome will guide the establishment of a management development programme in the course of 2024.

With the new ways of working in hybrid mode following the return to office in 2022, specific attention has been given to further strengthening collaboration among staff and having opportunities to socialise, both within and outside of the Centre's premises. One important focus in the organisation-wide workplace transformation project is to make the Centre's premises attractive in terms of networking and connecting with internal colleagues, as well as external stakeholders. The promotion of collaboration and the assurance of cohesion will continue to be important aspects in the years to come. Most of the jobs at the Agency (77.8%) are related to the implementation of

activities linked to its operational work. A total of 15.8% of the jobs come under the category 'administrative support and coordination', while 6.4% of the jobs are defined as neutral (i.e. primarily in the area of finance/accounting and internal control) (see Annex 4 - Establishment plan and additional information on human resources management).

6. Strategy for efficiency gains

In 2023, ECDC continued its efforts towards delivering efficiency gains. The Integrated Management Framework (IMF) Working Group continued to support preparations for the implementation roadmap for the IMF.

The introduction of new methodologies, including the automation of support and operational processes critical for achieving and sustaining further efficiency gains, continued in 2023. The main development in 2023 was the finalisation of the new planning and monitoring IT tool for the organisation, which brings together the data and information on ECDC actions, human and financial resources used for them, as well as related procurements and meetings. It is expected that this IT tool, which will go live in March 2024, will bring clear efficiency gains as it eliminates the use of several IT tools for planning and monitoring and simplifies all the processes related to planning and monitoring of ECDC activities.

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 European Union Intellectual Property Office (EUIPO).

It should be pointed out that ECDC is also implementing a number of operational programmes and actions, such as the re-engineering of its surveillance systems and the implementation of an automated tool for early detection of public health threats for increased efficiency.

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

7.1 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. The current plan was developed by the IAS in 2021, and 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 2023, the IAS performed an audit on information security management in ECDC, for which six recommendations were raised (three were rated as very important and three as important). The limited review of the adequacy of cooperation and coordination mechanisms to prevent, detect and respond to cross-border health emergencies at HERA, DG SANTE, EMA and ECDC was finalised in 2023, but did not result in any observations or recommendations for ECDC.

7.2 Internal Audit Capability (IAC)

Not applicable.

7.3 European Court of Auditors (ECA)

ECDC's annual accounts are audited by the European Court of Auditors (ECA). The audit includes a statement of assurance as to the reliability of the Centre's accounts and the legality and regularity of the underlying transactions.

ECDC received a qualified opinion for 2022, indicating that the accounts are reliable, but that the transactions underlying the accounts are partly not legal and regular. However, ECDC did not agree with the qualification given by ECA, as explained to the budgetary authorities during the discharge procedure. ECA made no other comments in its final report for 2022. The final decision on the discharge will be taken by the European Parliament before they close for the elections in 2024.

The ECA audit of the 2023 annual accounts is ongoing. The first part of the audit was performed in November 2023. The audit will be finalised during spring 2023, and a draft report will be available by June 2024.

In 2023, the ECA started to perform an audit on the EU agencies' response to the COVID-19 pandemic. The audit will be finalised in 2024.

8. Follow-up of recommendations and observations

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

Audits

Two of the three IAS recommendations open at the end of 2022 were fully implemented by ECDC in 2023 and reported to the IAS for review. One recommendation was partially implemented and reported to the IAS to be downgraded (from very important to important), with the remaining part having a new target date to be implemented by Q4 2024. ECDC will be following up this remaining part of the recommendation carefully to ensure that it is fully implemented as soon as possible, but at the latest by the new target date.

There are no remaining ECA observations open. As the qualification given regarding parts of the underlying transactions of the annual accounts 2022 was not accepted by ECDC, it has been closed.

Evaluations

As part of the improvement work, and in accordance with the Financial Regulation, the Centre has continued commissioning evaluations to improve specific interventions. In particular, in 2021, its flagship conference ESCAIDE was evaluated and in 2022, the work with other Centres for Disease Control based on MoUs was evaluated. In 2023, ECDC partnership building project with Africa Centres for Disease Prevention and Control was evaluated. All evaluations, which the Centre externalised, were performed based on a combination of methods: desk research, a comprehensive stakeholder consultation, and a benchmarking and learning exchange with other similar organisations (only applicable for ESCAIDE). The aim was to obtain a solid evidence base to propose practical recommendations and improve stakeholder engagement.

Evaluation of Escaide

The improvement action plan for ESCAIDE, formulated in response to the 2021 external evaluation, addresses 34 prioritised recommendations of the 53 proposed in the external evaluation report. These actions will be gradually implemented in a phased and resource-aware approach over the next two years. This plan aims to improve the conference's effectiveness and relevance through several strategic enhancements. Key initiatives in 2023 included: a) diversifying the Scientific Committee's composition and expanding abstract submission tracks; b) refining the abstract management tool to streamline the submission and review process and provide more information for reviewers and authors; c) creating diverse formats to stimulate debate and social interaction, along with mechanisms for broader input in shaping the event; d) increasing the conference's visibility and reach by engaging stakeholders, leveraging networks, and forming partnerships for co-organising side-events; and e) collaborating closely with national representatives in the host country, Spain, for delivering the conference and its pre-events. In addition, a project was created to update governance and working methods. This includes increased human resources for conference organisation, programme development, and communication, employing a project-centred approach with clear roles and responsibilities, and enhancing ECDC staff involvement in shaping the conference.

Evaluation of cooperation with other CDCs

ECDC has signed MoUs with several centres for disease control (CDCs) across the world, such as the US CDC, China CDC, the Public Health Agency of Canada, Israel's Center for Disease Control, the Ministry of Health of Mexico, the Health Security Agency of the United Kingdom and the Korea Disease Control and Prevention Agency. In addition, ECDC has also initiated the network of major CDCs, which meets on a quarterly basis to foster multilateral cooperation and the timely exchange of information. To gauge the value of this international cooperation, the Centre commissioned an external evaluation of its work with other major CDCs. The analysis was conducted based on a desk review of multiple documents and 51 interviews with representatives from other CDCs, representatives from the EU institutions and ECDC staff. The evaluation sought to determine the effectiveness, efficiency, relevance, coherence and EU added value of ECDC's work with other CDCs, as well as to highlight best practices that could be adopted by ECDC. The evaluation resulted in a report containing 21 recommendations ranked high, medium and low priority, which pertain to both the elaboration and execution of MoUs and Joint Action Plans, as well as the functioning of the network of major CDCs. These recommendations are being analysed and transformed into an action plan, with concrete actions to be undertaken by ECDC.

ECDC4Africa external evaluation

A four-year capacity and partnership-building project entitled 'EU for health security in Africa: ECDC for Africa CDC' was initiated in January 2021, with the financial assistance of European Development Fund by the European Commission DG for International Partnerships. This project aims to strengthen Africa CDC capacities in preparedness and response to health threats, facilitate harmonised surveillance and disease intelligence of prioritised outbreak prone communicable diseases at continental level, and support the implementation of Africa CDC's public health workforce development strategy. The aim behind the decision to proceed with a mid-term evaluation was to improve the delivery of the project, thereby ensuring smoother preparation and cooperation with the partners. It is planned that the evaluation will be finalised during March 2024.

Since 2015, ECDC has had a procedure in place for the internal evaluation of its activities and outputs, and this covers the commissioning of external evaluations and evaluation work carried out with internal resources. After the contribution of internal evaluators during the COVID-19 outbreak, the Centre drafted specific guidance for internal evaluators working in outbreaks and continued the capacity building with specific training for the core team of internal evaluators.

8.2 Follow up of recommendations issued following investigations by the European Anti-Fraud Office (OLAF)[22]

As ECDC did not have any open OLAF recommendations from previous years or receive any new ones in 2023, no follow-up of actions was required. There were no reports impacting the accounts in 2023.

9. Follow-up of observations from the discharge authority

Article 107(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'. Table 5 below provides an overview of the measures taken by ECDC in the light of observations and comments made by the Discharge Authority on 10 May 2023 relating to the implementation of the Centre's budget for the financial year 2021.

Table 5. European Parliament's observations and measures taken by ECDC

Reference	Observation of the Discharge Authority	Response and measures taken by ECDC	Status/ Reference
Budget and Financial Management			
P9_TA(2023)0161 Paragraph 2	Notes that, in 2021, the implementation of the Centre's Strategy 2021–2027 was slow due to the COVID-19 pandemic and to the new obligations imposed on the Centre in the context of the establishment of HERA; calls on the Commission to grant to the Centre the necessary resources to fulfil the objectives of the Strategy 2021–2027 and to implement the Centre's mandate in accordance with the revised Regulation (EC) No 851/2004.		
Performance			
P9_TA(2023)0161 Paragraph 6	Notes that the Centre continues to develop and implement a new indicator-based European surveillance system in EpiPulse with the aim of progressively covering COVID-19 and all other diseases and health conditions under the Union's surveillance; calls on the Centre to inform the discharge authority continuously on the development of that system.	The new ECDC surveillance portal for infectious diseases (EpiPulse) was launched in 2021 covering event-based surveillance. It was further developed in 2022 to also include WGS data collection, processing, analysis and visualisation. In 2023–2024, EpiPulse will progressively cover indicator-based surveillance for all diseases and health conditions under EU/EEA surveillance (replacing the current system TESSy). The new system will be connected to the EWRS by 2024, adopts new technologies and ensures automation of data validation and analysis, thus reducing the reporting burden for Member States.	Ongoing
P9_TA(2023)0161 Paragraph 9	Welcomes the fact that the Centre continues to share best practices and regularly works with other Union agencies, most notably the EFSAy, EMA and EMCDDA; acknowledges, furthermore, that the Centre participates in interinstitutional procurement procedures organised by other Union agencies; encourages the Centre to actively seek further and broader cooperation with relevant organisations and associations, national competent bodies and international organisations such as WHO, while avoiding any duplication of existing guidelines.	ECDC continues to build stronger technical cooperation with WHO, governed by the administrative arrangement between the two organisations. Apart from regular jointly produced surveillance outputs, ECDC is streamlining alignment during the outbreak response phase, e.g. joint surveillance bulletin on mpox, hepatitis, and the upcoming new joint ECDC/WHO respiratory viruses bulletin. Given ECDC's increasing global presence, collaboration with other entities of WHO (WHO Regional Office for the Eastern Mediterranean, WHO Regional Office for Africa, WHO Hub for Pandemic and Epidemic Intelligence and WHO European Centre for Preparedness for Humanitarian and Health Emergencies) is being reinforced. During the COVID-19 pandemic, ECDC intensified its interactions with the Advisory	Ongoing

[22] 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)

Reference	Observation of the Discharge Authority	Response and measures taken by ECDC	Status/ Reference
		Forum (AF) and key outputs were systematically sent for consultation to the AF. ECDC will continue to consult the AF on documents having an impact on Member States.	
Staff Policy			
P9_TA(2023)0161 Paragraph 11	Notes with concern the lack of gender balance within the Centre's senior management, with four of six (66, 67%) managers being men; notes the gender balance distribution among the Centre's overall staff, with 170 of 271 (62,73 %) being women; calls on the Centre to take concrete measures to achieve gender balance at all levels of the Centre's hierarchy as soon as possible and report back to the discharge authority; recalls also the importance of ensuring a balanced geographical representation among the Centre's management and staff.	In general, looking at the small numbers and long tenure of middle managers (Heads of Unit) it is difficult to take any concrete measures other than that the Director considers the gender balance at the time of appointment of a new middle manager. As for the position of Director, this is a matter for the Commission and ECDC's Management Board. With the retirement of some middle managers (Heads of Unit) due in 2024, there is a good opportunity to ensure gender as well as geographical balance in the senior management team from 2024 onwards. The Centre considers that there is a wide representation among the Centre's staff, with all but four EU Member States represented. The Centre takes the opportunity to encourage female applicants in areas, or for positions, in which a better gender balance is sought.	Ongoing
P9_TA(2023)0161 Paragraph 14	Recalls the importance of developing a long-term human resources policy on work-life balance, lifelong guidance and the offer of specific training possibilities for career development, gender balance at all staff levels, teleworking, the right to disconnect, the enhancement of a geographical balance to have an appropriate representation from all Member States, and the recruitment and integration of people with disabilities as well as ensuring that they are treated equally and that their opportunities are widely promoted.	In the Centre's Single Programming Document, ECDC's staff policy is described comprehensively, including the regulatory framework applied by the Centre. Furthermore, ECDC has adopted all relevant legal provisions regarding working time, including teleworking and the right to connect, recruitment, learning and development, prevention of harassment and other relevant areas of HR. All these provisions are accompanied with internal policies and procedures. These are implemented and reviewed regularly and available to staff via the Centre's intranet. In addition, these policies are summarised in the People@ECDC framework (with linked action for the coming years) which will be launched by Q4 2023.	Implemented
Prevention and management of conflicts of interest, and transparency			
P9_TA(2023)0161 Paragraph 17	Notes that, in 2021, the Centre was in the process of implementing its internal procedure on conflicts of interest for staff, and that the compliance officer and human resources section collaborate on implementing that procedure; calls on the Centre to report on the developments in this regard.	As planned, ECDC successfully implemented its Internal Procedure on Conflict of Interest for Staff. In 2022, ECDC's Director took a decision on the list of staff required to complete an annual declaration of interests. The decision was implemented in 2023 with 100% compliance. For this purpose, the ECDC Compliance Officer met line managers individually to provide training and support in the assessment of the interests. No potential conflicts of interest were identified.	Implemented
P9_TA(2023)0161 Paragraph 18	Insists on the need to put in place more systematic rules on transparency, incompatibilities, conflicts of interest, illegal lobbying and revolving doors; calls on the Centre to strengthen its internal control mechanisms, including the setting up of an internal anticorruption mechanism;	ECDC has procedures in place to prevent conflicts of interest, both in relation to staff and non-staff. Furthermore, the Director has appointed an Ethics Officer to contribute to the development of ethical principles, standards, rules and obligations, as well as the relevant procedures, more transparent and easier to understand for ECDC staff, by serving as the focal point for all ethics-related issues for staff and other people working for the Agency. ECDC has an anti-fraud strategy in place, which was adopted by the Management Board, which includes an assessment of the risks of corruption. However, ECDC will reinforce this strategy and ensure it includes any necessary anti-corruption measures tailored to the specificity and risk profile of the Agency.	Implemented
P9_TA(2023)0161 Paragraph 19	Points to the strategic inquiry launched by the European Ombudsman, and concluded in 2021, into how the Centre gathered and communicated information during the COVID19 pandemic, with a focus on the	ECDC's scientific advice outputs and risk assessments are based primarily on syntheses of published information and evidence, particularly papers published in peer-reviewed scientific journals, analyses of data reported to the Centre	Implemented

Reference	Observation of the Discharge Authority	Response and measures taken by ECDC	Status/ Reference
	early stage of the crisis; regrets the European Ombudsman's findings that the Centre did not dispose of sufficient measures to obtain all necessary information from Member States; welcomes the steps taken by the Centre to put in place measures to make it easier for the public to follow the evolution of its scientific advice and to see the data underlying its scientific assessments; calls on the Centre to ensure full transparency in publishing scientific studies and to enhance its external communications capacity as regards the general public by ensuring that all key information, especially related to public health emergencies is available in all Union languages and easily accessible to Union citizens.	through TESSy, consultation with expert panels, and a small number of studies specifically carried out by ECDC. These sources are explicitly documented in ECDC's outputs, and accessible through full citation of published sources in the reference sections of the outputs; through the ECDC surveillance dashboard and other published analyses of TESSy data; through publication of the membership of expert panels and the conclusions reached by those panels, and through publication of the results of ECDC-coordinated studies (e.g. reports on ECDC's periodic survey of EU Laboratory Capacity, the recent report on the results of a survey of HIV-related stigma). ECDC scientific advice and assessments are either published on its website, where they are publicly available, or in peer-reviewed scientific journals according to the principle of gold-standard open access. ECDC continues to produce communication content related to COVID-19 and based on the Centre's scientific evidence, all of which is publicly available on social media channels and the ECDC website. Measures to increase visibility and reach are in place, considering issues such as misinformation, disinformation and infodemics, as well as pandemic fatigue in the general public and other target audiences. ECDC continues to translate some of its content into all EU languages, Icelandic and Norwegian, particularly that related to vaccination issues. Due to the high cost of translations, content targeted at the expert community is primarily in English. More information on ECDC's approach to translations can be found in its language policy, and in its Communication Policy 2022–2027. ECDC incorporated the machine translation service (eTranslation) of the European Commission on its website in December 2022. This feature provides Union citizens automatic translation from English into the other 23 official EU languages, for key information published as website pages, such as report summaries and news items.	Implemented Implemented Partially implemented
Internal Control			
P9_TA(2023)0161 Paragraph 20	Notes that the final report of the Internal Audit Service (IAS) in relation to its audit on human resource management and ethics in the Centre in 2020 was received by the Centre in January 2021; notes that the audit resulted in four recommendations, two of which were classified as very important and two as important, and that the Centre implemented one recommendation and the implementation of the other three was planned for the end of 2022; calls on the Centre to report to the discharge authority on the implementation of the actions planned; notes, moreover, that in 2021, the IAS performed a limited review of the implementation of the new internal control framework, and that the audit made four recommendations, all of which were classified as important; calls on the Centre to report to the discharge authority on any development in that regard;	Regarding the audit on HR Management and Ethics, two of the four recommendations have been fully implemented and the other two have been partially implemented. All recommendations are planned to be fully implemented by the end of 2023. Regarding the Limited Review of the Implementation of the New Internal Control Framework, all the recommendations have been fully implemented.	Three of the four recommenda-tions have been fully implemented, and one recommendation has been partially implemented. The outstanding part is planned to be fully implemented by Q4 2024.

Reference	Observation of the Discharge Authority	Response and measures taken by ECDC	Status/ Reference
P9_TA(2023)0161 Paragraph 21	Notes that the Centre's 2021 self-assessment regarding the implementation of the internal control framework showed that the internal control system is in place and functioning, but some improvements are needed; notes, in particular, the objective of the Centre to develop an internal communications policy based on the overall Centre communication policy 2021-2027, including communication on the objectives and responsibilities of internal control; calls on the Centre to report to the discharge authority on the developments in that regard.	In 2022, a number of improvements were made to the internal control framework, such as an improved ECDC Control Strategy, including new indicators, an improved ECDC Information Asset Catalogue and the development of a new internal communications policy.	Implemented
P9_TA(2023)0161 Paragraph 22	Recalls the importance of strengthening management and control systems to ensure the proper functioning of the Centre; strongly insists on the need for effective management and control systems to avoid potential conflicts of interest, missing ex-ante/ex-post controls, inadequate management of budgetary and legal commitments, and failures to report issues in the register of exceptions.	ECDC agrees with the importance of having strong management and control systems in place. Therefore, the Centre has put in place an Integrated Management Framework, including an Internal Control Framework and a specific Control Strategy, and is working on continuously improving the management and control systems in place.	Continuous improvements are being made to the IMF and the ICF.
Digitalisation and the green transition			
P9_TA(2023)0161 Paragraph 23	Notes that the Centre's premises is certified as a 'Green building' and that, furthermore, it has received the environmental certification 'BREEAM Very Good in use' in 2020; welcomes the fact that the Centre's electricity is 100 % provided by hydro-powered energy; notes that the Centre finalised the first phase of the implementation of its environmental management system based on the European Eco-Management Audit Scheme (EMAS); calls on the Centre to report to the discharge authority on any development in that regard;	ECDC is currently in the process of EMAS certification and has submitted its paperwork to the external verifier, which will be followed by the application to the national competent authority. As part of the EMAS work, ECDC has implemented steps for a green public procurement: • ECDC has included 'green' selection criteria as a standard in its procurement templates. These criteria are linked to the Agency's environmental approach, as defined in EMAS. • ECDC is part of the Green Helpdesk Inter-Agency Contract (EMAS-2020-043) which provides information and advice on how to further enhance the environmental conditions in procurement procedures and contracts. • ECDC has raised awareness regarding 'green' criteria as part of the minimum requirements and the award criteria. Project Managers now regularly include 'green' requirements in the procurement procedures.	EMAS certification implemented, other tasks ongoing.
P9_TA(2023)0161 Paragraph 25	Notes that, in 2021, the Centre continued to be attacked by cybercriminals and hacktivists, and that in response the Centre implemented additional cyber-security measures, such as Microsoft Defender, forensic tools for deep analysis, an information security management system and privilege access/identity management. Notes that the Centre has created a cybersecurity policy and also increased its IT security staffing and notes, furthermore, that the Centre was in the process of setting up a security authority; calls on the Centre to follow the recommendations made by the Court in its special report on Cybersecurity of EU institutions, bodies and agencies (EUIBAs)1 , in which the Court asks EUIBAs to have an IT security risk management framework covering the entirety of their IT infrastructure and carry out regular risk assessments, and to provide systematic awareness training for all staff, including management; in this context welcomes the recently adopted cybersecurity policy covering all aspects	In 2023, ECDC continued with the implementation of its information security policy, and the rollout of its Information Security Management System (ISMS) with associated execution, monitoring, supporting, and auditing processes. The 2023 IAS audit focused on information security and will be completed by the end of 2023, with valuable recommendations to be implemented. ECDC is updating its Business Continuity Management System, part of which will be detailed risk management methodology which will cover risks related to critical infrastructure and assets. In 2023, ECDC procured access to Enterprise Awareness Training Platform which provides a comprehensive and modern approach that integrates baseline testing using mock attacks, engaging interactive web-based training, and continuous assessment through simulated phishing attacks to build a more resilient and secure organisation. ECDC has set up a Security Authority, as specified in the upcoming EU Information	Implemented

Reference	Observation of the Discharge Authority	Response and measures taken by ECDC	Status/ Reference
	from business needs and wants, to people skills and awareness and to technical security; calls on the Centre to report to the discharge authority on any developments in that regard.	Security Regulation. The Security Authority is a cross organisational governance body with responsibility for security governance, risk and compliance in ECDC.	
P9_TA(2023)0161 Paragraph 26	Recalls the importance of increasing the digitalisation of the Centre in terms of internal operation and management but also in order to speed up the digitalisation of procedures; invites the Centre to switch to paper-less document management and internal processes where possible; stresses the need for the Centre to continue to be proactive in this regard in order to avoid a digital gap between the agencies; draws attention, however, to the need to take all the necessary security measures to avoid any risk to the online security of the information processed.	In 2023, the Centre published its Digital Roadmap 2022–2027: https://www.ecdc.europa.eu/en/publications-data/ecdc-digital-roadmap-2022-2027	Ongoing
Other comments			
P9_TA(2023)0161 Paragraph 31	Notes that the Court, in its Special Report No 13/20221, found that the Centre does not comprehensively assess the usefulness and impact of its guidance and calls on the Centre to obtain regular feedback from its stakeholders to fill this gap.	ECDC assesses the usefulness and impact of its guidance in a number of ways, mainly through the ECDC Stakeholder Survey and regular feedback from the AF. Questions on the usefulness and impact of its guidance were included in the ECDC Stakeholder Survey launched in 2022 and will regularly be included in future ECDC Stakeholder Surveys.	Ongoing Implemented
P9_TA(2023)0161 Paragraph 33	Welcomes the Centre's active engagement in the Joint Action TERROR addressing gaps in the health preparedness of the Member States and to strengthen response to biological and chemical terror attacks; calls on the Centre to further increase its commitment to addressing security threats;	ECDC will continue to support the JA on Terror. Together with Europol, ECDC organises a bi-annual 'Biorisk Awareness and Mitigation' training course for EU/EEA and ENP countries. As of 2024, every three years ECDC will assess the Member States' state of implementation of their national prevention, preparedness, and response plans. Such assessments shall be based on a set of agreed indicators and carried out in cooperation with the relevant EU agencies or bodies.	Ongoing
P9_TA(2023)0161 Paragraph 34	Calls on the Centre to continue to develop its synergies (for instance human resources, building management, IT services and security), its cooperation and its exchange of good practices with other Union agencies with a view to improving efficiency.	ECDC will continue to work closely with other EU decentralised agencies within the EU Agency Network, and in particular in the Performance Development Network (PDN). Furthermore, ECDC will continue to benchmark its organisational management activities, as well as seek for synergies with other agencies (in particular with EFSA, ECHA and EMA) through regular bilateral exchanges. The review of ECDC's Integrated Management Framework will also include benchmarking to find possible good practices and partners.	Ongoing

10. Environment management

ECDC continued to progress on the implementation of the EU Eco-Management and Audit Scheme (EMAS) and applied for EMAS certification in Q4 2023 with the competent Swedish authority. (The certification was subsequently granted in January 2024). In addition, ECDC's premises are environmentally certified as a 'green building' and have received the environmental certification 'BREEAM Very Good'.

11. Assessment by management

ECDC conducts its operations in compliance with relevant legal requirements in an open manner to maintain its scientific independence and achieve high professional standards. The Agency regularly monitors the implementation of the action plans based on ECA and IAS audit recommendations. In 2023, ECDC closed all the audit recommendations from previous years except one, and the review of ECDC's Internal Control Framework did not expose any significant shortcomings.

Part 2b. External evaluations

ECDC's Founding Regulation requires the Centre to organise external evaluations every five years to assess how well it is performing its mission. Based on the recommendations and opinion of its Management Board, the Centre implemented the action plan resulting from its third external evaluation (as reported in CAAR 2022).

The next external evaluation of the Centre will be commissioned by the European Commission in accordance with the amended ECDC Founding Regulation[23] in 2024/2025.

[23] Regulation (EU) 2022/2370 of the European Parliament and of the Council of 23 November 2022 amending Regulation (EC) No 851/2004 establishing a European centre for disease prevention and control.

Part 3. Assessment of the effectiveness of internal control systems

1. Effectiveness of internal control systems

1.1 Methodology applied for assessing the effectiveness of the internal control system

ECDC assesses the effectiveness of the internal control system at least once a year by assessing the implementation of the internal control framework, including the implementation of the indicators defined, and by evaluating the main shortcomings identified by ECDC itself or reported by others, including the Internal Audit Service and the European Court of Auditors.

1.2 Internal Control Framework

The Management Board adopted the new ICF at its 43rd meeting in November 2018. As of 2019, the ICF formed the basis for ECDC's internal control system.

ECDC's ICF is designed to provide reasonable assurance of the achievement of the five objectives set in Article 30 of ECDC's 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, and
- 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 aligning 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 functioning 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 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 is designed to help the organisation 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 in a timely manner to changing conditions and correct deviations from intended performance and effectiveness.

The Agency must be able to demonstrate not only that controls are in place, but also that these controls are effective at managing 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 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 ICF was further reinforced with detailed indicators that were approved by the MB in November 2019, with a revision of the indicators performed in June 2020 as agreed with the Board. The ICF was further amended by the Board, following the IAS final report on the 'limited review of the implementation of the new ECDC Internal

Control Framework' at the November 2021 meeting to reflect the IAS recommendations. Furthermore, in 2022, it was decided to add a number of survey-based indicators in time for the ICF assessment to be performed in January 2023 for the Consolidated Annual Activity Report 2022. The results for the survey-based indicators are taken from two ECDC surveys (the ECDC Staff Engagement Survey and the ECDC Internal Control Survey.) The plan is to run these surveys bi-annually. In total, 44 new survey-based indicators have been added to the ICF.

The implementation of the ICF is assessed annually and a report is sent to the Audit Committee of the MB. The assessment of the ICF for 2023 was performed in January/February 2024 and presented to the Audit Committee in March 2024. The main conclusions were as follows:

- The self-assessment performed on the implementation of the internal control framework showed that the internal control system is present and functioning, but some improvements are needed.
- At 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, 11 principles are in place and functioning well with no or only minor improvements needed, while six principles are present and functioning, with some improvements needed.
- Overall, 42 characteristics (84%) were rated as 'the characteristic is in place and functioning well, with no or only minor improvements needed', eight characteristics (16%) were rated as 'the characteristic's control system is present and functioning, but some improvements are needed', no characteristics 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'.
- In 2023, the main improvement made to the internal control framework related to the full implementation of the Annual Declarations of Interest signed by ECDC Staff, Seconded National Experts and trainees.

1.3 Implementation and monitoring of the agency's policies for the prevention and management of conflicts 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, it introduced an independence policy in 2016 to ensure transparency and identify any risk of conflicts of interest. The policy has since been split into two documents, one covering non-staff, including MB and AF members, 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 number of errors in 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 staff members. In 2023, the Centre lacked only a very small percentage of declarations: 3% of the appointed Management Board members/alternates did not submit their Annual Declarations of Interest (ADoI), 3% of the appointed Advisory Forum members/alternates failed to submit. All external experts consulted during the production of rapid risk assessments declared their interests before publication. It should be noted that all members of the MB and AF attending the meetings and thus contributing to the discussions had valid ADoIs. The Director and Heads of Unit completed their ADoIs and 95% of external experts attending ECDC meetings that required a conflict-of-interest check submitted an ADoI.

2. Conclusions of internal control system assessment

Given the control system in place, the information obtained from the building blocks of assurance (see 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 in place. However, some improvements are needed regarding the implementation of the internal control framework (as explained in paragraph 1.2 of 'Internal Control Framework' above).

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

3. 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.

Place Solna *date* 22 February 2024

Maarit Kokki
Head of Executive Office

Part 4. Management assurance

1. 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 of 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;
- 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 considered to be of such a significance that they would have an impact on the Director's Declaration of Assurance.

2. Reservations

2.1 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 in the declaration of assurance.

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

2.1.1 Qualitative criteria

2.1.1.1 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 mainly assessed through the size and sensitivity of the issue and area concerned and the potential damage to ECDC and its operations.

2.1.1.2 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 mainly assessed through the size and sensitivity of the issue and area concerned and the potential damage to ECDC's reputation, including the level of public interest.

2.1.1.3 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 considers whether the observation is made in an area covered by the Director's Declaration of Assurance, whether the issue was solved immediately during the reporting period, and whether the impact is potentially material.

2.1.2 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).

Therefore, 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, the reservation is only made 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 2023, set at a minimum of EUR 1.7 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.

2.2 Reservations for 2023

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, 27 February 2024

Andrea Ammon

Director

Annex 1. Core business statistics 2023

In 2023, ECDC delivered 90% of the outputs planned in its Single Programming Document 2023–2025. A total of 5% of the planned outputs were postponed, while 4% were cancelled, not implemented, delayed or not applicable at the end of the year.

The following table provides the detail on the implementation of the 2023 Work Programme by SPD objective and related outputs.

Action Area	SPD 2023 Objective		SPD 2023 Key Output	Status	Comments
Strategic Objective 1: Scientific Excellence: strengthen and apply scientific excellence in all ECDC's activities and outputs to inform public health policy and practice					
Area 1.1 Standards					
Area 1.1 Standards	1.1.1	Pave the way for EU/EEA surveillance standards in line with revised list of notifiable diseases and their case definitions.	- Template for EU/EEA surveillance standards.	Implemented	Template completed in 2023 and piloting started with STI. This work will lead to standardisation of surveillance operations and more effective monitoring of quality and fitness for purpose.
	1.1.2	In consultation with ECDC stakeholders, develop and establish a set of guiding principles and standards for the design production and dissemination of ECDC outputs and quality assurance procedures.	- Publication of principles and standards and revision, if necessary, of relevant ECDC policies and procedures.	Ongoing	ECDC guiding principles relevance, quality, independence, transparency, accessibility endorsed by the ECDC Advisory Forum and ECDC Director. Implementation in processes and revision of policies and procedures ongoing. Publication in preparation.
	1.1.3	Ensure and demonstrate scientific independence in all ECDC activities in consultation with relevant stakeholders.	- Report on implementation of procedures to ensure and demonstrate scientific independence.	Implemented	Legal Services Section maintain record and report (see above) on submission of declarations of independence by contributors to scientific reports and by Advisory Forum, as advisers on scientific outputs produced.
Area 1.2 Evidence					
Area 1.2 Evidence	1.2.1	Ensure timely and effective monitoring of potential threats from infectious diseases.	- Online dashboard on ongoing global threats for EU citizens.	Implemented	Dashboard ready for internal purposes (EpiRadar). It will be available for EpiPulse users in 2024.
			- Daily and weekly Communicable Diseases Threat Report (CDTR) available in EpiPulse.	Implemented	Reports disseminated and published according to schedule ECDC has transitioned to reports being generated by EpiPulse and links shared for daily CDTR and restricted weekly CDTR.
			- Daily and weekly Communicable Diseases Threat Report (CDTR) available in EpiPulse.	Implemented	Reports disseminated and published according to schedule ECDC has transitioned to reports being generated by EpiPulse and links shared for daily CDTR and restricted weekly CDTR.
			- Stakeholders' access real-time information on current signals, events, and threats via EpiPulse (in depth analyses) and via the public dashboard.	Ongoing	Information accessible to relevant stakeholders in EpiPulse situation awareness and daily/weekly CDTRs but not yet via the dashboard.

Action Area	SPD 2023 Objective		SPD 2023 Key Output	Status	Comments
			- Participation in EIOS governance and technical meetings.	Implemented	Meeting attended and ECDC requirements presented. EIOS has become the main tool for ECDC EI
			- Strategy for strengthening involvement of Member States in Epidemic Intelligence activities.	Implemented	A network of operational contact points was created which met for the first time in 2023. A number of activities were agreed. Training in EI was organised for several countries. This will lead to a more participatory approach to threat detection and assessment, definition of common strategies with Member States, and opening of the ECDC EI activities to a broader audience of relevant Member State stakeholders.
			- Participation in EIOS rosters.	Implemented	
			- Plan for rapid implementation of surveillance of emerging threats.	Implemented	A mock-up metadata set was created that can be adapted rapidly in case of a new emergency requiring setting up of EU surveillance.
			- New tools and/or modifications to existing tools needed for strengthening the internal rapid response to emerging threats.	Ongoing	Work is ongoing to prepare the introduction of AI in EI operations. Framework contract launched to be signed in 2024.
	1.2.2	Carry out routine indicator-based surveillance, including generation of high-quality, relevant, and timely outputs.	- Surveillance Atlas updated with newest data.	Implemented	Atlas was updated with 2022 data reported in 2023.
			- Production of the AER.	Implemented	
			- Optimise production process and format of AER and Atlas.	Ongoing	A proposal to integrate AER and Atlas will be implemented from 2024 (to be available in Q1 2025).
			- Contribute to disease prioritisation implementing act.	Ongoing	Draft IA delivered to SANTE in time. Currently under discussion with the technical working group on preparedness of the HSC.
			- New data warehouse.	Ongoing	Being implemented according to plan. It will be completed in 2024.
			- Dataset manager implemented in surveillance data warehouse.	Implemented	Completed in parallel with the new data warehouse implementation.
			- Implementation plan for outbreak detection from laboratory detection data.	Ongoing	Initial protocol developed. To be shared with Member States in 2024.
	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 Flu News Europe bulletin (incorporating COVID-19),newly launched weekly European Respiratory Virus Surveillance Summary	Implemented	HIV/AIDS report, TB surveillance and monitoring report (completed); - AMR, antimicrobial consumption, HAIs (point prevalence surveys in acute care hospitals and in long-term care facilities, surgical site infections, intensive care units) (published).

Action Area	SPD 2023 Objective		SPD 2023 Key Output	Status	Comments
			(ERVISS), regular influenza and coronavirus characterisation reports, joint EFSA/ECDC avian influenza monitoring report, monthly ELDSNet report, monthly joint ECDC-WHO mpox surveillance and reports, weekly West Nile Virus Reports, Annual joint ECDC-EFSA reports on One Health and AMR, Monthly Measles and Rubella monitoring report, AMR antimicrobial consumption, HAIs.		EPD outputs – completed. Weekly Flu News Europe bulletin (incorporating COVID-19), replaced by ERVISS in Q4.
			- Seasonal, real-time surveillance of vector-borne diseases to support blood safety measures.	Implemented	
			- EQA overview reports.	Implemented	EARS-Net EQA report (published).
			- Proposed list of diseases and case definitions for new Implementing Act.	Implemented	Draft implementing act was shared with DG SANTE, and it is currently under consultation with the HSC technical working group of preparedness. The proposal includes not only a revised list of diseases and their case definitions, but also a list of reportable events.
	1.2.4	Provide evidence to support Member States to increase public health microbiology capacity.	- EU Laboratory Capability Monitoring System (EULabCap) reports.	Implemented	The last survey performed in 2022 and published in 2023 showed a further improvement of microbiology capacity. The EULabCap survey will be reviewed to account for the significant changes in Member States WGS capacities, the establishment of the EURLs, the assessment of preparedness under SCBTH Art 7 and 8.
			- Definition of software solution that can perform analysis of sequence data to support EU-level molecular surveillance.	Implemented	The software solution was selected.
			- In close collaboration with European Commission and their outsourced services, definition of a process for implementation of the EU-RL system under the new cross-border threat legislation.	Implemented	ECDC provided the support needed to define and implement the nomination process for the first batch of EURL.
	1.2.5	Provide evidence that is relevant to the needs of ECDC's stakeholders and delivered according to annual publication schedule.	- IRIS proposals submitted to AF to assess relevance of proposed key outputs for the following year.	Cancelled	The IRIS exercise was cancelled in 2023 as per the Director's decision.
			- Scientific outputs published according to ECDC publication schedule.	Implemented	The production and publication of scientific outputs is managed through SARMS.

Action Area	SPD 2023 Objective		SPD 2023 Key Output	Status	Comments
		Review existing frameworks to support evidence-informed decision-making in public health.	- Review report delivered.	Implemented	The report on existing frameworks to support evidence-informed decision-making in public health is delivered and will be published early 2024.
	1.2.6	Establish a repository for collation of guidance developed by national authorities and professional bodies in EU Member States.	- Repository available.	Implemented	The pilot Repository has been launched on the ECDC website. An evaluation of the success of the pilot Repository has been completed.
			- Plans for further development based on results of evaluation of Repository.	Implemented	Next steps for the development of the Repository have been identified and documented based on the findings of the pilot exercise.
	1.2.7	Provision of WGS services to support surveillance and outbreak investigations.	- WGS services offered throughout the year. Countries are continuing to benefit from this service, which ECDC plans to discontinue during 2024 as WGS capacity improves in Member States.	Implemented	
Area 1.3 Methodologies					
Area 1.3 Methodologies	1.3.1	Develop and implement an ECDC science impact assessment framework to measure the impact of ECDC's scientific outputs on its stakeholders.	- Science impact assessment framework published on website.	Ongoing	The publication of the Science impact assessment framework on website is pending updates from recent development in the area of science for policy impact.
Area 1.4 Knowledge transfer					
Area 1.4 Knowledge transfer	1.4.1	Enhance impact of ECDC outputs by strengthening the utility and relevance of scientific advice and information products.	- ECDC output categories reviewed and signed-off by the scientific advice steering group.	Implemented	The ECDC output categories were reviewed by the scientific advice steering committee and signed-off by the Director. The new category will be implemented January 2024.
			- At least one scientific category template redesigned.	Implemented	A new template for factsheet (including a checklist and work instructions) has been piloted and is now included in SARMS. A revision of all ECDC factsheets are ongoing. A new template for RRAs has been put in place including a new structure, word counts for each section, editorial considerations, and a new design.
			- Guidance and supporting materials produced to support ECDC scientific staff in using the new templates to best effect.	Implemented	The new factsheet template was developed with colleagues across the Centre. Colleagues responsible for updating the ECDC factsheets have been

Action Area	SPD 2023 Objective		SPD 2023 Key Output	Status	Comments
					introduced to the new template. The new RRA template has been presented to the EPRS team and related knowledge transfer activities have taken place.
			- Target audiences are defined for all ECDC scientific outputs and appropriate dissemination formats, and channels are utilised to ensure accessibility and utility.	Ongoing	The revision of the scientific output category including the intended impact and audience has been endorsed by the Director and will be implemented in 2024.
	1.4.2	Organise the annual ESCAIDE conference, including a 'knowledge for policy and practice' track in the ESCAIDE conference.	- 2023 edition of ESCAIDE track on knowledge for policy and practice.	Implemented	
	1.4.3	Ensure production and wide dissemination of Eurosurveillance as a high-quality journal with good visibility.	- 50 issues of Eurosurveillance.	Implemented	
			- Scientific seminar at international conference.	Implemented	Delivered at ESCAIDE in November.
			- Board meeting with action points for 2024.	Implemented	Meeting took place as a one-day online meeting in October.
	1.4.4	Contribute to targeted knowledge transfer to *Eurosurveillance* readers and contributors, including ECDC experts.	- Workshops on the margins of ECDC-organised events (ESCAIDE, ECDC summer school, traineeship project review module) at ECDC or at national public health institutes.	Implemented	Pre-ESCAIDE workshop at PH Institute in Barcelona; Seminar and workshop during project review module of traineeship programmes; seminar at SSI; contribution to ECDC webinar series. A multidisciplinary exercise on how to produce scientific advice took place as a pre-event before ESCAIDE 2023.
			- Podcast pilot (2-3).	Ongoing	Change in direction following intense investigation no dedicated podcast series, instead contribution under ECDC umbrella.
			- Science communication.	Implemented	XX Eurek Alert! Posts and regular LinkedIn and X posts.
			- Format for series of educational 'How to series' set out.	Ongoing	First article to be published in February; format and instructions for authors will be discussed with editorial board in Q1 2024.
	1.4.5	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.	- ECDC scientific outputs published on the Centre's website and/or as open access publication if published in peer-reviewed scientific journals.	Implemented	Compliance to ECDC open access policy continues to be high. The search feature on ECDC's website has been rebuilt to ensure ECDC scientific outputs are found easily by users.
	1.4.6	Strengthen internal processes for creating, capturing, sharing, and effectively leveraging	- Implementation of ECMP.	Implemented	ECMP has been deployed. Content has been migrated from the legacy DMS system that retired.

Action Area	SPD 2023 Objective		SPD 2023 Key Output	Status	Comments
		internal ECDC knowledge.	- Development of a draft Knowledge Management framework to facilitate the management of strategic ECDC knowledge sets.	Implemented	A knowledge management framework has been developed to contribute to the effective management of knowledge and its incorporation into practice.
			- Undertake study into the feasibility of an Enterprise Data Catalogue.	Implemented	Feasibility study has been completed.
Action Area	**SPD 2023 Objective**		**SPD 2023 Key Output**	**Status**	**Comments**
Strategic Objective 2: Empowerment: Support the countries to strengthen their capacities and capabilities to make evidence-based decisions on public health policies and practices					
Area 2.1 Country focus					
Area 2.1 Country focus	2.1.1	Network interactions	- Disease network meetings and Public Health Functions network meetings.	Implemented	Hepatitis, HIV, STI, TB, SoHO blood and SoHO tissues and cells network meetings (implemented) - HAI-Net network meeting, and EARS-Net and ESAC-Net webinars (implemented). EPD completed F2F Annual Meetings: EVD LabNet (May); Influenza and Respiratory Viruses (June); FWD (Sept). EPD Virtual Annual Meetings: EVD (Nov) and ELDSNet (Nov).
			- Disease network and Public Health Functions Coordination Committees meetings.	Implemented	Hepatitis, HIV, STI, TB DNCC and SoHO NCC meetings (implemented) - EARS-Net, ESAC-Net and HAI-Net DNCC meetings (implemented) EPD: FWD F2F (Mar); EVD Virtual (Mar) and Influenza and Respiratory Viruses Virtual (April) NFPs for Surveillance, Microbiology, Preparedness, Threat detection and Response, Operational Contact Points for Epidemic Intelligence (network set up and first meeting held).
			- Other meetings (inter-sectoral meeting(s) with key stakeholders).	Implemented	ECDC participated in two meetings with Member States of the Frontex Working Group on ETIAS Risk Screening Operations, bringing together border police, law enforcement and public health. ECDC organised a bio risk awareness and mitigation training in the framework of the Initiative on Health Security (HIS) for countries representative coming from the sectors of public health, law enforcement and civil protection.

Action Area	SPD 2023 Objective		SPD 2023 Key Output	Status	Comments
	2.1.2	Country support.	- Collection of needs from network meetings.	Implemented	Collection of needs from Hepatitis, HIV, STI, TB, SoHO blood and SoHO tissues and cells network.
			- IT solution with integrated Member States data in operation.	Implemented	
			- Country mission corporate procedure functional.	Ongoing	One element: Mission report template implemented. Other elements ongoing.
			- Country missions conducted, with a focus on after/in-action reviews in relationship with COVID-19 response.	Implemented	Missions to Finland, Sweden, Norway, Slovenia, Lithuania.
			- Pilot country support.	Ongoing	The pilot is being rolled out.
Area 2.2 Prevention and control programmes					
Area 2.2 Prevention and control programmes	2.2.1	Develop scientific advice on communicable disease prevention and control measures.	- Expert opinions.	Implemented	Guidance: prevention and control of infectious diseases among people who inject drugs – 2023 update - Perspective: 'Revisiting the personal protective equipment components of transmission-based precautions for the prevention of COVID-19 and other respiratory virus infections in healthcare' (Eurosurveillance, 10 August 2023). EPD – FEVED (EVD) 'The implications for the EU/EEA of the outbreak of mpox caused by monkeypox virus clade I in the Democratic Republic of the Congo'.
			- Technical reports.	Implemented	Variant Creutzfeldt-Jacob disease (vCJD) in donors of blood and plasma having temporarily resided in or visited the United Kingdom (UK) COVID-19 and supply of SoHO in the European Union/European Economic Area (EU/EEA) - Third update Handbook on TB laboratory diagnostic methods in the EU - updated 2023 - 'Estimated incidence of bloodstream infections with three key pathogens in the EU/EEA in 2019', 'Increase in *Escherichia coli* isolates carrying *bla*$_{NDM-5}$ in the European Union/European Economic Area, 2012–2022', and 'Carbapenem- and/or colistin-resistant *Klebsiella pneumoniae* in Greece:

Action Area	SPD 2023 Objective		SPD 2023 Key Output	Status	Comments
					molecular follow-up survey 2022' (published). EPD - RVL Published five avian influenza reports in 2023, joint with EFSA: March; May; July; September; and December. 'Influenza virus characterization - Summary Europe', March, October and December. February: 'Considerations for infection prevention and control practices in relation to respiratory viral infections in healthcare settings'. September: 'Targeted surveillance to identify human infections with avian influenza virus during the influenza season 2023/24, EU/EEA'. December: 'Survey report on laboratory capacity for molecular diagnosis and characterisation of zoonotic influenza viruses in human specimens in EU/EEA and the Western Balkans'. EPD - EFVED March: Eurosurveillance: 'Spatiotemporal spread of tick-borne encephalitis in the EU/EEA, 2012 to 2020'. March: The European Union Summary Report on Antimicrobial Resistance in zoonotic and indicator bacteria from humans, animals and food in 2020/2021. May: 'Hepatitis A notifications in the EU/EEA, 2010–2019: what can we learn from case reporting to the European Surveillance System?'. December: The European Union One Health 2022 Zoonoses Report.
			- Systematic Reviews.	Implemented	Healthcare-associated hepatitis B and C transmission to patients in the EU/EEA and UK: a systematic review of reported outbreaks between 2006 and 2021, BMC Public Health.
			- Scoping Reviews.	Not implemented	

Action Area	SPD 2023 Objective		SPD 2023 Key Output	Status	Comments
			- Other scientific outputs.	Implemented	Rapid communication on EU/EEA progress towards Sustainable Development Goal (SDG) target for tuberculosis in 23 March Eurosurveillance - Rapid communications on 'Rapid cross-border emergence of NDM-5-producing *Escherichia coli* in the European Union/European Economic Area, 2012 to June 2022' (Eurosurveillance, 11 May 2023) and 'Rebound in community antibiotic consumption after the observed decrease during the COVID-19 pandemic, EU/EEA, 2022' (Eurosurveillance, 16 November 2023). EPD - RVL February: Risk Assessment: 'SARS-CoV-2 in animals: susceptibility of animal species, risk for animal and public health, monitoring, prevention and control'. March: 'Interim analysis of COVID-19 vaccine effectiveness against Severe Acute Respiratory Infection due to SARS-CoV-2 in individuals aged 20 years and older – fourth update'. April: 'New perspectives on respiratory syncytial virus surveillance at the national level: lessons from the COVID-19 pandemic'. June: 'Enhanced surveillance of severe avian influenza virus infections in hospital settings in the EU/EEA'. July: 'A non-systematic review for surveillance purposes: SARS-CoV-2 variant mutations conferring reduced susceptibility to antiviral drugs and monoclonal antibodies'. August: 'ECDC classifies XBB.1.5-like lineages with the amino acid change F456L as variants of interest following an increase in SARS-CoV-2 transmission in EU/EEA countries and abroad'. October: 'Standard laboratory protocols for SARS-CoV-2 characterisation'.

Action Area	SPD 2023 Objective		SPD 2023 Key Output	Status	Comments
					December: 'Acute respiratory infections in the EU/EEA: epidemiological update and current public health recommendations'. December: 'Reporting Protocol for integrated respiratory virus surveillance'. December: 'Public health action needed to mitigate the impact of respiratory pathogens for 2023-24 winter season in Europe'. Various updates to reporting protocols: 'Severe Acute Respiratory Infections (SARI) Reporting Protocol' and 'Coronavirus disease 2019 (COVID-19) data Reporting Protocol'. EPD – EFVED March: June: Press release: 'Mosquito-borne diseases: Increasing risk of mosquito-borne diseases in EU/EEA following spread of *Aedes* species' (europa.eu). EPD – EFVED January: notification summary: 'Shigella outbreak and other gastrointestinal infections among EU/EEA travellers returning from Cabo Verde'. February (Risk Assessment): Outbreak of *Shigella sonnei* in the EU/EEA, the United Kingdom, and the United States among travellers returning from Cabo Verde. Published 17 February. March (Risk Assessment): Multi-country outbreak of *Salmonella* Virchow ST16 infections linked to the consumption of meat products containing chicken meat. March: notification summary: 'Multi-country outbreak of Salmonella Senftenberg ST14".

Action Area	SPD 2023 Objective		SPD 2023 Key Output	Status	Comments
					July: Multi-country outbreak of *Salmonella* Senftenberg ST14 infections possibly linked to cherry-like tomatoes'. Published 27 July. August: Clusters of *Salmonella* Enteritidis linked to consumption of chicken meat detected in 11 EU/EEA countries. October: Regarding three clusters of *Salmonella* Enteritidis ST11 infections linked to chicken meat and chicken meat products. December: Regarding Prolonged multi-country cluster of *Listeria monocytogenes* ST155 infections linked to ready-to-eat fish products. EPD AERs: Seasonal influenza; zoonotic influenza; anthrax; brucellosis; botulism; chikungunya; cholera; dengue; leptospirosis; malaria; trichinellosis; Zika virus disease; hantavirus infection; Creutzfeldt-Jakob disease, variant; listeriosis; typhoid/paratyphoid fever and hepatitis A.
			- Training materials.	Not implemented	
	2.2.2	Strengthen whole genome sequencing and RT-PCR capacity in the EU/EEA.	- National WGS and/or RT-PCR infrastructure support continued.	Implemented	Provided regularly in 2023 although the demand is decreasing with the strengthening of the national WGS infrastructures.
	2.2.3	Further develop the Prevention Framework.	- Draft Prevention Framework.	Implemented	Draft under external consultation.
	2.2.4	Provide social and behavioural support to disease programme sections and support capacity building in this area.	- Mapping of health-related behavioural and social science research capacity in the EU/EEA.	Implemented	Pilot study implemented as planned. Comprehensive mapping, based on methodology developed during the pilot, to start in 2024.
			- A database of prevention, including behavioural and social science, actors (management and implementation) in Member States.	Postponed	The database is postponed until 2024. It will take into account the findings of the pilot exercise finished in 2023.
			- Documented support to disease programme sections.	Implemented	Advisor for project: 'Effective communication around the benefit and risk balance of vaccines'.

Action Area	SPD 2023 Objective		SPD 2023 Key Output	Status	Comments
Area 2.3 Training					
Area 2.3 Training	2.3.1	Improvements of the Fellowship Programme, based on the results of the external evaluation 2019.	- Based on the recommendations from the 2018/2019 external evaluation of the Fellowship Programme, implementation of the roadmap for an improved programme started. First curricular updates implemented for Cohort 2023.	Implemented	Focus has been on curricular update and the updated curriculum is being implemented for Cohort 2023.
			- Administrative improvements (e.g. simplified cost options for hosting fellows) progressively in place.	Implemented	By September 2024 all FPA for hosting will be simplified cost options. The mechanism for providing scientific coordination has also been restructured and simplified.
			- Support to implementation of national Fellowship Associated Programmes will be provided, upon request.	Implemented	Collaboration with the only current EPIET associated programme in Germany is working well. No further requests for support.
	2.3.2	ECDC offers a Continuous Professional Development (CPD) training activities that responds to the needs of the Member States and identified by the ECDC networks.	- ECDC training offer further developed, reflecting the new needs identified, particularly in the area of preparedness, epidemiology, surveillance, microbiology, MDRO, Vaccine preventable diseases.	Implemented	31 instructor led trainings and 19 e-learnings and 13 professional exchanges.
			- Two training modules on Emergency Preparedness delivered.	Implemented	The modules are available in EVA.
			- All the training offers presented in a training catalogue in EVA.	Implemented	All ECDC trainings will be offered via EVA.
	2.3.3	Keep continuous quality improvement activities, accreditation, and evaluation as an essential part of ECDC training programmes and activities.	- Accreditation of ECDC Fellowship programme explored, and steps for its achievement initiated (e.g. contacts with universities and accrediting bodies established for partnerships and/or applications).	Postponed	The process for TEPHINET or academic accreditation has not started.
			- Participation certificates for the CPD trainings include the mention of the credits acquired through the participation.	Implemented	This information is available in the certificates of the accredited trainings.
			- The tools to self-assess the quality of the training are made available.	Implemented	This is systematic.
			- Key performance indicators for the Fellowship Programme established.	Ongoing	
	2.3.4	Maintain the ECDC Virtual Academy (EVA) as the learning management system for the different training programmes and activities according to the IP.	- EVA has a more user-friendly interface.	Implemented	

Action Area	SPD 2023 Objective		SPD 2023 Key Output	Status	Comments
	2.3.5	Identify country training needs to orient the ECDC training priorities and CPD training offer through regular assessments, with the aim to strengthen workforce competencies and reduce inequalities in capacity across Europe.	- Mechanism to support Member States in this task is proposed to Member States.	Implemented	A report on how to conduct training needs assessment was provided.
			- Detailed Work Programme 2024 considers the results of the training needs.	Implemented	
Area 2.4 Emergency preparedness					
Area 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.	Implemented	Five AARs were completed: Three in the context of a project on evidence-based decision making and two were national requests to ECDC.
			- Literature reviews.	Implemented	Lit review on conflicts and PH, accepted for publication Lit review on NPI cost effectiveness, preprint Lit review on transmission of SARS-CoV-2 in aircrafts, submitted for publication Scoping review on lessons learnt from the COVID-19 pandemic, under development. Rapid review on heatwaves, under ECDC review Rapid review on travel measures to control transmission of respiratory pathogens, under ECDC review.
			- Expert consultation on contact tracing and outbreak investigation, protocols and tools.	Implemented	Expert consultation conducted.
			- ECDC tools, training and guidance developed – threat prioritisation, contact tracing, risk assessment methodology, (including e-learning).	Implemented	E-learning on risk assessment methodology updated. AAR methodology updated and published.
			- EWRS and EpiPulse properly functioning and further improved according to the needs of internal stakeholders as well as the European Commission and the Member States.	Ongoing	
	2.4.2	Support the Implementation of revised EU legislation (ECDC mandate and Regulation on serious cross-border threats to health - SCBTH).	- Approach for individual work with Member States tested.	Postponed	Postponed for 2024.
			- Field deployments upon requests from the Member States, the European Commission (DG ECHO, DG SANTE) and GOARN.	Implemented	Deployment to Syria/Türkiye earthquake in March 2023.
			- Expert and Member States consultations organised.	Implemented	Consultation on Art. 8 conducted.
			- Pilot tests conducted.	Postponed	Postponed for 2024.

Action Area	SPD 2023 Objective		SPD 2023 Key Output	Status	Comments
	2.4.3	Produce and disseminate Rapid Risk Assessments and Rapid Outbreak Assessments.	- RRAs and Joint ECDC-EFSA public health risk assessments (rapid outbreak assessments), including joint notification summaries.	Implemented	Three RRAs (aver. 348 downloads in first 30d post publication) Five ROAs (aver. 210 downloads in first 30 days post publication) Epi Update on Respiratory viruses (Dec 23) - (7176 downloads in first 30d post publication).
			- Response related rosters functional.	Implemented	EPRS section staff covered all RDO duties (53 weeks) in 2023.
			- RRA methodology revised.	Ongoing	To be finalised in Q2 2024.
	2.4.4	Maintain and network for the EOC and Public Health Event (PHE) tools.	- PHE training internal and external.	Postponed	Postponed for 2024.
			- EOC equipment upgraded.	Implemented	
			- Organisation of an international EOC meeting.	Implemented	EOC staff participated in the global meeting in November 2023.
Strategic Objective 3: Outlook: Prepare for the future through foresight and innovation assessments					
Action Area	**SPD 2023 Objective**		**Key Output**	**Status**	**Comments**
Area 3.1 Foresight					
Area 3.1 Foresight	3.1.1	Future scenarios developed and modelling initiated to enable strategic prioritisation and improve public health preparedness Inform pandemic policy response through mathematical modelling and forecasting.	- Diverse medium-term infectious disease threat scenarios.	Implemented	
			- COVID-19 short-term forecasts.	Implemented	ECDC launched RespiCast, an extension of the successful European COVID-19 Forecast Hub.
Area 3.2 Engage					
Area 3.2 Engage	3.2.1	Communicate research priorities relevant to the prevention and control of infectious disease	- Approach used for Covid-19 in 2022 expanded to another disease area.	Ongoing	Projects to define knowledge gaps related to a) risks of infection from blood donation, and b) legionella ongoing Deliverables foreseen in 2024 Q1 (blood donation) and Q2 (*Legionella*).
	3.2.2	Contribute to EU Joint Actions and EU Research projects.	- ECDC's contributions to ongoing projects, including expert advice, data, and technical support (subject to resource availability and concordance with ECDC mandate).	Ongoing	Staff continue to link to many EU-funded research projects and joint actions related to ECDC mandate through ad hoc requests (data sharing, information exchange etc) and in various formal roles (scientific/advisory committee members etc.)
	3.2.3	Collaborate with other EU Agencies, through the EU Agency Network on Scientific Advice (EU-ANSA), to develop innovative approaches to address issues of mutual interest through scientific collaboration and sharing of expertise in research clusters.	- ECDC contribution to EU-ANSA collaborative initiatives on continuing professional development and scientific cooperation in crisis situations.	Implemented	ECDC took part in the two annual EU-ANSA meetings. ECDC chairs the Science and policy impact cluster and held the first meeting in March 2023. ECDC also co-organised and co-developed an info session on open research and open publication.

Action Area	SPD 2023 Objective		SPD 2023 Key Output	Status	Comments
Area 3.3 Support transformation					
Area 3.3 Support transformation	3.3.1	Expand the use of digital health data for surveillance of multiple diseases and in the majority of Member States.	- Expansion of eHealth surveillance to two additional diseases, including AMR and in addition to SARI, and to two countries in addition to the 13 included in 2022.	Implemented	13 countries participated in the implementation of eHealth-based SARI surveillance, 22 to AMR surveillance, and 10 countries volunteered to work on STI surveillance from 2024.
			- List of areas for EC to strengthen through national grants.	Implemented	The list was provided in time to SANTE for Member States to submit their proposal end February. Gaps and areas of support were collected in collaboration with the NFPs for surveillance and in consultation with the AF.
	3.3.2	Expansion of EpiPulse	- EpiPulse (Cases) expanded to include approximately 50% of notifiable diseases.	Delayed	EpiPulse cases is not currently used. The first batch of diseases will be included in 2024.
	3.3.3	Implement the molecular surveillance strategic framework.	- Operationalisation of additional diseases along the strategic framework for implementation of genomic typing into EU-level surveillance.	Implemented	About 70% of the priority diseases have been implemented, including new diseases such SARS-CoV-2.
			- Databases and analytical pipelines.	Implemented	
	3.3.4	Automate epidemic intelligence processes.	- Tool for detecting and monitoring events from social networks.	Ongoing	EpiTweetr was discontinued due to unsustainable collaboration with the company X. Alternative approaches are being explored, particularly using AI and EIOS for event detection.
	3.3.5	Pilot and evaluate innovations to support evidence assessments.	- Pilot and evaluation of crowdsourcing platform for evidence synthesis tasks and assessment of crowdsourcing potential for other areas such as epidemic intelligence.	Ongoing	ECDC Crowd platform launched and pilot ongoing.
Strategic Objective 4: Health Security: Increase the health security in the EU through strengthened cooperation and coordination between ECDC and partners in non-EU countries					
Area 4.1 Neighbourhood					
Area 4.1 Neighbour-hood	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 and their advancement on 'One Health' approach against AMR and enhancing SARI surveillance in Western Balkan region.	- ECDC pre-accession assistance activities to prepare Western Balkans and Turkey for their participation in ECDC.	Ongoing	
			- Technical cooperation activities initiated on the One Health approach against AMR.	Ongoing	
			- Technical cooperation activities continued on SARI surveillance.	Ongoing	
	4.1.2	Support the progressive integration of ENP partner	- Development and implementation of work plan to deliver Epidemic	Ongoing	Annual work programme is implemented with some minor changes.

Action Area	SPD 2023 Objective		SPD 2023 Key Output	Status	Comments
		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.	intelligence, risk assessment, preparedness, and response capacity building activities.		
			- Application of framework and criteria for integration of ENP partner countries into ECDC systems and networks.	Ongoing	ENP partners countries benefit from experience in ECDC disease networks through an exchange of experts' programme.
	4.1.3	Manage MediPIET, under the EU Initiative on Health Security.	- Fourth cohort graduated with a high success rate of fellows.	Implemented	
			- Fifth cohort of MediPIET, training started, with on-the-job projects and modules implemented.	Implemented	
			- Annual meeting of steering committee.	Implemented	
			- MediPIET managed by ECDC and aligned with ECDC Fellowship Programme and other ECDC training approaches.	Implemented	
Area 4.2 Major CDCs					
Area 4.2 Major CDCs	4.2.1	Increase bilateral collaboration with major CDCs.	- Regular exchange of information and practices through face-to-face or teleconferences.	Implemented	
			- Joint Action Plans associated with the MoUs developed and implemented.	Ongoing	
	4.2.2.	Collaborate with CDCs through the Network of major CDCs.	- Regular exchange of information and practices through face-to-face meetings or teleconferences.	Implemented	3 TCs took place.
			- Formalisation of the Network through terms of reference.	Implemented	
			- Further expansion of the Network to other CDCs explored.	Ongoing	
	4.2.3	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.	- Activities delivered in line with agreed workplan in different technical areas of ECDC4Africa CDC project.	Implemented	
Area 4.3 Coordination					
Area 4.3 Coordination	4.3.1	Continue to nurture the collaboration and coordination with the EU Institutions and bodies particularly the	- Enhanced channels of close collaboration for effective coordination and interaction with the European Commission, the	Implemented	Ongoing collaboration with Commission services; Continued collaboration with the European Parliament (ENVI, Committee, SANT

Action Area	SPD 2023 Objective		SPD 2023 Key Output	Status	Comments
		European Commission (DG SANTE, DG RTD, DG ECHO, DG NEAR, DG INTPA, JRC) and the European External Action Service (EEAS) and other EU agencies in particular with the European Food Safety Authority (EFSA) and the European Medicines Agency (EMA).	EEAS, the European Parliament, and the Council Secretariat.		sub-Committee, CONT and BUDG Committees); Collaboration with EFSA at the Joint CMO/CVO Council working party meeting on 19 June 2023 on One Health. High-level meetings with representatives of the Commission (DG SANTE, DG HERA, DG INTPA, JRC) and the Council (COREPER II ambassadors, Director's participation at the formal and informal EPSCO). In 2023; Collaboration with the European Economic and Social Committee (EESC) in event on cross-border collaborations on health.
			- Identification of potential areas of collaboration and joint work with other EU Agencies.	Implemented	ECDC-EASA MoU signed in September 2023; joint statement of ECDC, EFSA, EMA, ECHA and EEA to express their common commitment in the One Health cross-agency task force; Interaction with EFSA and EEA in the context of Team Europe Initiative on strengthening the One Health workforce in Africa.
	4.3.2	Invest in maintaining constructive relationship with the European Parliament, in particular with the Committee for the Environment, Public Health and Food Safety (ENVI).	- ECDC Director's annual exchange of views with the ENVI Committee and hearings before Parliamentary Committees upon request.	Implemented	The ECDC Director's annual hearing took place on 4 Dec. 2023. Hearings on ECDC's reinforced mandate, lessons from the COVID-19 pandemic and on disease specific topics such as on HIV/AIDS also took place with the ENVI Committee, its sub-Committee SANT and with the Special COVI-Committee. The Director also met with ECDC's Contact MEP and with other MEPs in ENVI to discuss topics related to ECDC's mandate and to infectious diseases.
			- Provision of scientific opinions as requested by the European Parliament.	Implemented	
			- Information of ECDC activities and of the Centre's disease specific areas in a format useful for making decisions.	Ongoing	
	4.3.3	Maintain and enhance cooperation with key policy stakeholders at the EU-level, including annual involvement in the European Health Forum Gastein (EHFG) and maintaining close relations with our host country, Sweden.	- ECDC organised annual session at EHFG.	Implemented	ECDC organised a session on strategic foresight in public health on 27 Sept. 2023, resulting in a high evaluation score.
			- ECDC Director's and experts' participation in other EHFG sessions.	Implemented	
			- ECDC Director's participation as member of	Implemented	Director's participations in events and in interviews on

Action Area	SPD 2023 Objective		SPD 2023 Key Output	Status	Comments
			the EHFG advisory committee.		public health leadership, on future health priority topics, on health systems, and on lessons from the COVID-19 pandemic.
			- Joint events organised with EU stakeholders in Sweden.	Implemented	In addition to collaboration and events with the Swedish EU Presidency, ECDC also co-organised events with the European Commission Representation and the European Parliament office in Sweden.
	4.3.4	Enhance further collaboration with WHO to ensure complementarity of actions and avoid duplication of efforts.	- Implementation of the Administrative arrangement between ECDC and WHO/Europe, including annual plan for joint and collaborative activities.	Implemented	
Strategic Objective 5: Organisational Efficiency: Transform the organisation to the next generation ECDC					
Area 5.1 Integrated Management Framework					
Area 5.1 Integrated Management Framework	5.1.1	Ensure continued implementation of the integrated management framework.	- Coordination of the integrated management framework and implementation of the integrated management framework roadmap.	Implemented	Improvements made to the IMF and the main planned activities in the roadmap implemented.
	5.1.2	Strengthen internal processes for creating, capturing, sharing, and leveraging internal ECDC knowledge.	- New learning practices and tools introduced.	Cancelled	Communities of Practice are gradually introduced.
			- Assessment against a learning organisation model performed and gaps analysed.	Cancelled	Learning organisation project cancelled due to resource constraints.
	5.1.3	Ensure continued implementation of the roadmap for the IT Integrated Steering and Support Systems (IceCube).	- The ECDC planning and monitoring system fully configurated and the roll-out plan developed.	Implemented	The ECDC new planning and monitoring system (PRIME) was configurated and the roll-out plan developed.
			- The ECDC planning and monitoring system implemented.	Ongoing	The PRIME launch date was set for Q1 2024.
			- E-workflow applications introduced for selected ECDC processes.	Ongoing	The IceCube programme implemented its third tranche according to plan and will continue with further developments in 2024 and beyond.
	5.1.4	Initiate implementation of an ISO 9001-based quality management system for ECDC.	- Deployment of the ISO 9001 quality management system initiated in selected sections.	Ongoing	Initiated by the Executive Office (DIR).
			- Evaluations coordinated.	Implemented	Evaluation of ECDC4AfricaCDC.
			- Methodology for managing business processes.	Implemented	Methodology identified and approved.
			- Up-to-date instructional documents.	Ongoing	
	5.1.5	Ensure continued planning and reporting on ECDC annual work programmes.	- Planning, monitoring, and reporting on ECDC work programmes implemented.	Implemented	
			- Project and programme management coordination	Implemented	

Action Area	SPD 2023 Objective		SPD 2023 Key Output	Status	Comments
			and support across ECDC carried out.		
	5.1.6	Enhance the system of Key Performance Indicators (KPIs) to support improved monitoring of the ECDC performance and achievement of Strategic Objectives.	- ECDC indicator framework developed.	Postponed	The project was postponed to 2024, as it was dependant on the successful revision of the ECDC Strategy and the Intervention logic.
	5.1.7	Ensure continued coordination of the ECDC internal control and audit activities.	- Audit coordination and follow-up of audit observations implemented.	Implemented	Coordination with the IAS and the ECA provided, as well as follow-up of audit observations throughout 2023.
			- Internal control coordination and the internal control framework activities implemented.	Implemented	Internal control activities coordinated and ICF assessment performed.
			- Grant ex-post verifications.	Implemented	Grant Verification Plan developed and implemented.
Area 5.2 Engaged staff					
Area 5.2 Engaged staff	5.2.1	Transform human resources management and provide effective and efficient Human Resources services.	- Revision (development of new) ECDC values.	Postponed	Postponed until 2025. Will be a task for the new Director.
			- A sustained and adequate frame of medical and psychological services safeguarded to foster staff health and wellbeing.	Ongoing	A new four-year contract for medical services was concluded. The new contract for psychological support will be concluded in 2024. A series of mindfulness workshops were carried out as well as training on first aid and CPR.
			- Timely adoption of new implementing rules including communication to staff (especially ahead of a possible review of the Staff Regulations 2024 and related changes).	Not applicable	No new IRs were adopted in 2023, nor will there be any revision of the Staff Regulations in 2024.
Area 5.3 Stakeholders and external communication					
Area 5.3 Stakeholders and external communi-cation	5.3.1	Implement public relations activities and improved branding.	- Rebranding, including look and feel as well as messages, voice, and style.	Ongoing	This objective includes several deliverables, in 2023, ECDC performed a brand audit and a media mapping. The rebranding will be postponed until the new Director is in place.
			- PR plan and a selection of actions included in this document.	Ongoing	See above.
			- Develop branded items and maintain the ECDC trademarks.	Implemented	Different branded items were produced in 2023, and the ECDC trademarks maintained as expected.
	5.3.2	Increase media outreach in EU/EEA countries.	- Social media enhanced outreach, social media listening and paid promotion.	Implemented	Social media outreach enhanced through the production of audiovisual materials, collaborations with social media influencers and thorough community engagement.
			- Proactive outreach to media outlets in the EU/EEA, answers to 100%	Implemented	All media requests received a reply, and proactive media outreach implemented

Action Area	SPD 2023 Objective		SPD 2023 Key Output	Status	Comments
			of requests received through the press inbox and media placements in top outlets.		through press conferences, pitching of stories, media placements and improvement of media lists.
			- Media training for experts.	Implemented	Five media trainings were performed in 2023.
			- Daily, quarterly, and annual media monitoring reports.	Implemented	Media monitoring reports received as expected.
			- Podcasts development and evaluation.	Implemented	Podcast development and evaluation performed as expected.
	5.3.3	Improve and further develop ECDC online presence, ensuring that the content on its websites is audience-oriented and that it helps to improve the transparency, visibility, and availability of ECDC outputs.	- Content development for the ECDC websites which is clear, organised and targeted to the needs of the audiences.	Implemented	Content for the websites was developed as planned.
	5.3.4	Develop and implement the stakeholder engagement framework and related activities.	- Stakeholder mapping.	Ongoing	The stakeholder engagement project is progressing as expected, with a deadline in the middle in 2024.
			- Stakeholder Engagement Framework.	Ongoing	Same as above.
			- Templates, checklists, and other tools to support colleagues working in this area at ECDC.	Ongoing	This will be done between 2024-2025, according to the project timeline.
			- Outreach to selected stakeholders.	Ongoing	This is done on a regular basis.
			- ECDC ASPIRE communication campaign.	Implemented	Internal communication campaign supporting the ASPIRE transformational programme implemented fully.
	5.3.5	Implement disease-specific risk communication initiatives following internationally recognised awareness days, ECDC priorities and stakeholder priorities.	- Integrated communication campaigns.	Implemented	13 integrated communication campaigns implemented covering different disease and public health topics.
			- Policy briefs.	Implemented	One brief developed for AMR.
			- EAAD.	Implemented	Campaign implemented as planned.
	5.3.6	Enhance internal communication activities, including improvements to the Information Centre.	- Internal communication activities.	Implemented	Internal communication activities implemented as planned.
			- Information Centre management.	Implemented	Information Centre was kept up to date.
	5.3.7	Provide professional information services.	- Publications print and distribution.	Implemented	Objective reached as planned.
			- Digital publications.	Implemented	Three digital publications available on the ECDC website.
			- Information stands, visits and/or open days.	Implemented	Two information stands were organised, together with four study visits.
			- Digital events.	Implemented	Three digital events were implemented covering HIV, antimicrobial resistance, and vaccination.

Action Area	SPD 2023 Objective		SPD 2023 Key Output	Status	Comments
			- Newsletters.	Implemented	New tool for internal and external newsletters implemented. New format established and sent out to different audiences.
	5.3.8	Reinforce EVIP through EU4Health agreed actions.	- Study on vaccination information uptake.	Ongoing	Moving forward as expected and within agreed timelines as part of the project.
			- Communication materials.	Ongoing	Same as above.
			- Translations.	Ongoing	Same as above.
			- Paid promotion on digital platforms.	Ongoing	Same as above.
	5.3.9	Ensure continued support and coordination of the ECDC governance bodies.	- Support and coordination of the work of the MB, AF, and CCBs.	Implemented	Ongoing activity according to annual plan.
			- Liaison and actions to improve cooperation with members of the MB, AF and CCBs carried out.	Partially implemented	Continues in 2024.
			- Coordination of the Director Consultation Group (DCG).	Implemented	Ongoing activity according to annual plan.
			- Governance of the Stakeholders Relationship Management (SRM) system.	Implemented	Implemented according to annual plan.
Support Services					
Area 6.1 Digital Transformation Services					
Area 6.1 Digital Transform-ation 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.	Implemented	Development of 5 new IT solutions and 10 major further developments.
			- Ensured IT services, IT product basic maintenance and continuous service improvement.	Implemented	Maintenance and improvement of 33 digital solutions.
			- IT quality, PMO, enterprise architecture and IT security services are provided with high quality.	Implemented	System for continuous end-users satisfaction monitoring rolled out DTS Dashboard automated Continual Improvement Register established.
			- The new IT Service Management (ITSM) portal is implemented.	Implemented	Full transition of ITSM portal from Ivanti to ServiceNow completed.
			- The European Federation Gateway Service (EFGS) is operational and a proposal for its future status is made to the eHealth network.	Cancelled	Agreement reached to decommission EFGS. System is kept on stand-by.
	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.	- The Information Security Management System (ISMS) is implemented as planned.	Implemented	System for continuous cybersecurity awareness training rolled out Security Authority established.
	6.1.3	Prepare ECDC for the future through common digital capabilities, technology and innovation.	- The ECDC IT Target Operating Model 2023-2027 is implemented as planned.	Implemented	ECDC Agile Playbook first version DevOps Centre of Excellence established.

Action Area	SPD 2023 Objective		SPD 2023 Key Output	Status	Comments
					Community of Practice of Business Owners established.
Area 6.2 Resource Management					
Area 6.2 Resource Management	6.2.1	Provide effective and efficient Procurement services.	- Provision of procurement services throughout the full procurement cycle to all the Units of the Centre.	Ongoing	
			- Number of negotiated procedures/direct contracts reduced.	Implemented	Compared to 2022 ECDC had in 2023 fewer negotiated procedures (102 compared to 107).
			- Number of new procurement procedures added to the procurement plan during the year reduced.	Not implemented	During 2022, 85 procedures were added, whereas in 2023, 146 procedures were added.
			- Continued implementation of procurement e-workflows.	Implemented	The Procurement Section has now moved to the Commission tool PPMT as well as finalised implementation of the internally created eWorkflows.
	6.2.2	Provide effective and efficient Legal services.	- Provision of legal support to all Units of the Centre.	Implemented	
			- Update and maintain agreements database.	Implemented	
			- Review and update Internal Procedures as required.	Implemented	
			- Coordinate the implementation of ECDCs independence policy across the Centre.	Implemented	
			- Full compliance and establishment of routines for the implementation of the Independence Policy for Staff.	Implemented	
			- Implementation of the ex-post control strategy for the application of the Independence Policy and the Data Protection Regulation.	Partially implemented	Data Protection: data protection records were reviewed to ensure that their content reflects processing operations in the RMS and DTS Units. Checks of meeting participants were carried out.
			- Coordination of access to document requests.	Implemented	
			- Implement the data protection function in ECDC.	Implemented	
			- Develop annual workplans for all Units related to data protection.	Implemented	Data Protection priorities were linked to the procurement plan and confirmed with Heads of Unit.
	6.2.3	Provide effective and efficient Corporate services.	- Continue the implementation of the corporate services strategy that aligns the Corporate Services Section structure and framework of services with ECDC long-term plan	Postponed	The activity was deprioritised due to competing demands.

Action Area	SPD 2023 Objective		SPD 2023 Key Output	Status	Comments
			for enhancing efficiency and effectiveness.		
			- Implement service level agreements for facilities management services.	Postponed	The activity was deprioritised due to competing demands.
			- Improve experience of participants to ECDC events.	Ongoing	Combination of internal process improvement and cooperation with external service provider.
			- Reduce ECDC environmental footprint according to set objectives.	Ongoing	EMAS certification progressed, which will provide baseline and targets for the future.
			- Continue the implementation of the ECDC workplace assessment recommendations.	Ongoing	Project active in three pillars – physical space, IT and AV equipment, and collaboration.
			- Continue the digitalisation of mailroom and archives.	Postponed	The activity was deprioritised due to competing demands.
	6.2.4	Provide effective and efficient Financial Management services.	- Further on-board suppliers into e-invoicing.	Ongoing	Continuous process.
			- Integrate and implement newly received grant(s) into the budgetary and financial system.	Postponed	The planned Contribution Agreement related to EWRS was not signed by EC and ECDC.
			- Enhance the financial reporting, forecasting, and monitoring of the budget implementation throughout the Centre.	Ongoing	Continuous process.
			- Enhance financial training for newcomers throughout the Centre.	Implemented	Face-to-face Finance training developed and organised throughout 2023.

Annex 2. Statistics on financial management

Budget outturn (in EUR)	2021	2022	2023
Revenue actually received (+)	172 749 000	103 385 000	95 703 000
Payments made (-)	109 153 000	75 930 000	68 486 000
Carry-over of appropriations (-)	71 428 000	35 729 000	31 510 000
Cancellation of appropriations carried over (+)	1 025 000	13 837 000	4 059 000
Adjustment for carry-over of assigned revenue appropriations from previous year (+)	9 089 000	12 124 000	10 511 000
Exchange rate differences (+/-)	-543 000	179 000	478 000
Adjustment for negative balance from previous year (-)			
Total	**1 739 000**	**17 866 000**	**10 755 000**

Descriptive information and justification for:

Budget outturn

First estimate of the 2023 surplus to be reimbursed to the EU budget (as assigned revenue): EUR 10 755 088.58.

The Centre cashed its budget of EUR 90 182 000 in 2023.

The expenditure of 2023, including the carry-forward to 2024, is EUR 99 997 043.10.

The amount of cancelled unused payment appropriations carried forward from the previous year (2022) of EUR 4 059 587.06, the adjustment for carry-over from the previous year of appropriations available at 31 December, arising from assigned revenue of EUR 10 510 679.69 and the exchange rate gain for the year 2023 of EUR 478 495 have resulted in a positive budget outturn for 2023.

In 2023, ECDC reimbursed the budgetary positive balance from 2022 of EUR 17 866 467.32 to the EU.

As a result of the above, EUR 10 755 088.58 will be reimbursed during 2024 to the EU budget (as assigned revenue) related to the Centre's 2023 budget implementation.

Cancellation of commitment appropriations

The total implementation of commitment appropriations in 2023 was 97.14%, with a total of EUR 2 575 090.61 cancelled, compared to EUR 1 136 676.41 cancelled in 2022. As a result, the reduction of the EU contribution of 2% for the implementation of commitment appropriations is not applicable for the 2025 budget of ECDC. The commitment of appropriations for the operational expenditure on Title 3 was 97.09% in 2023.

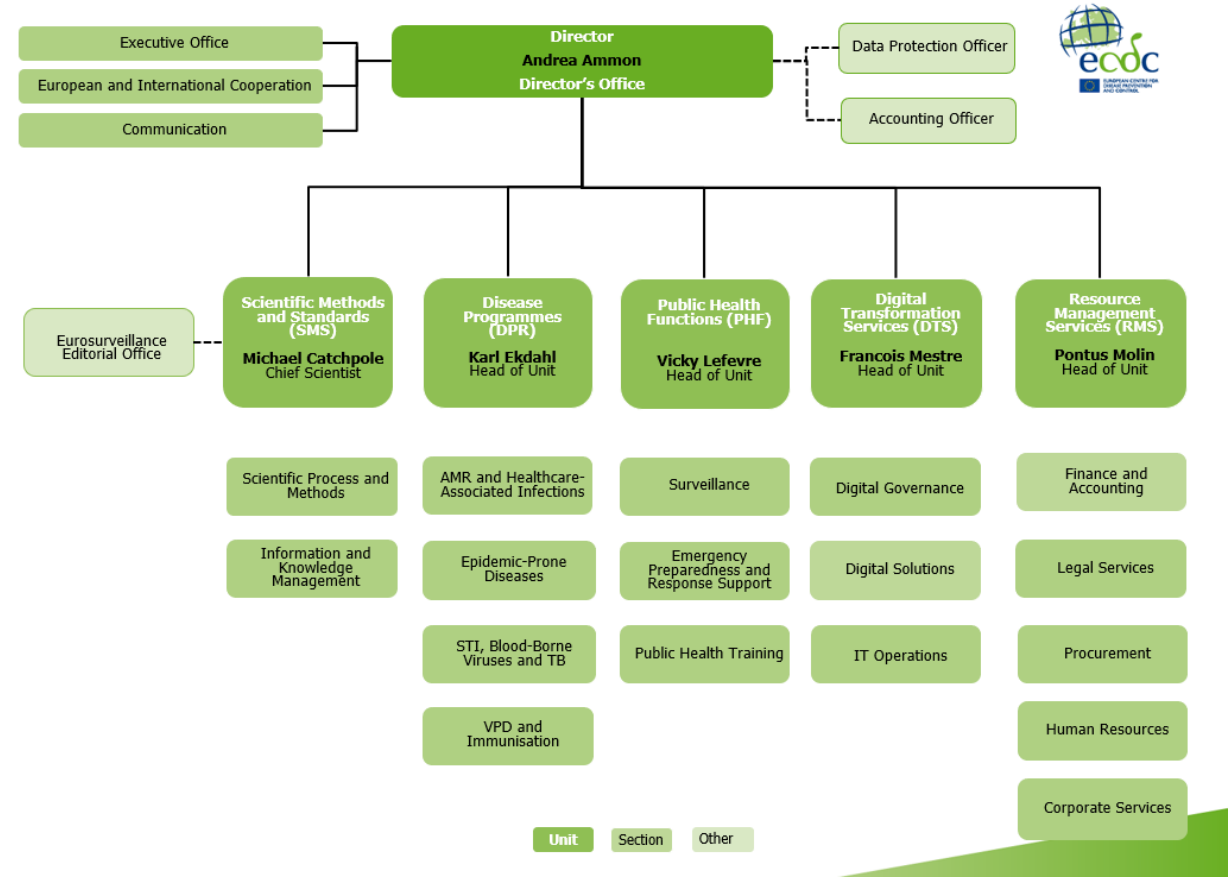
Cancellation of payment appropriations for the year and payment appropriations carried over

Due to further cancellations of payment appropriations related to the closure of the last HERA Incubator WGS infrastructure support grant agreement, which were beyond ECDC's control, the Agency cancelled more than 5% of its payment appropriations in 2023. The total cancellation rate, including approximately EUR 2 million in HERA-related payment appropriations, is currently at 5.75% cancelled. Without the HERA cancellations it would be at around 4% and therefore below the threshold for a 2% cut.

The Centre has carried forward EUR 25 218 920.60 from 2022 to 2023, of which EUR 21 159 333.54 was paid (fund source C8).

This corresponds to 83.90% of the amount carried forward.

Annex 3. Organisational chart



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

ECDC establishment table 2023

Category and grade	Establishment plan in voted EU budget 2023	
	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		28
AD 7		29
AD 6		25
AD 5		3
Total AD		**155**
AST 11		
AST 10		1
AST 9		2
AST 8		3
AST 7		11
AST 6		10
AST 5		15
AST 4		17
AST 3		3
AST 2		
AST 1		
Total AST		**62**
AST/SC6		
AST/SC5		
AST/SC4		
AST/SC3		5
AST/SC2		
AST/SC1		
Total AST/SC		**5**
Total		**222**

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

Key functions	Type of contract (official, TA or CA)	Function group, grade of recruitment	Role of the function (i.e. administrative support or operations)
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's results[24]

Job type (sub) category	Year 2022 (%)	Year 2023 (%)
Administrative support and coordination	**14.9**	**15.8**
Administrative support	13.5	14.6
Coordination	1.3	1.2
Operational	**78.5**	**77.8**
Top-level operational coordination	2.5	2.1
Programme management and implementation	65.5	66.5
Evaluation and impact assessment	0.0	0.0
General operational	10.5	9.2
Neutral	**6.6**	**6.4**
Finance/control	6.6	6.4
Linguistics	0.0	0.0

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

Implementing rules adopted in 2023

Management Board Decisions on Implementing Rules
None

Annex 5. Human and financial resources by activity

The activity-based costing (ABC) provides an overview of human and financial resources consumed (committed) by activity in 2023. It reflects the structure presented in 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 4).

Strategic objective/Action Area	Total FTEs	Admin Staff	CA	TA	Title 1	Title 2	Title 3	TOTAL
1. Strengthen and apply scientific excellence	77.3	16.9	25.5	51.8	987 624	400 000	12 602 861	13 990 485
1.0 Management	1.8	0.4	0.1	1.7	23 612			23 612
1.1 Standards	5.4	1.2	2.4	3.0	69 121			69 121
1.2 Evidence	40.5	9.1	9.6	31.0	517 940		11 195 623	11 713 564
1.3 Methodologies	0.2	0.0	0.0	0.1	1 934			1 934
1.4 Knowledge transfer	29.3	6.1	13.4	16.0	375 016	400 000	1 407 237	2 182 254
2. Support the countries to strengthen their capacities and capabilities	**77.7**	**17.4**	**19.6**	**58.1**	**993 322**	-	**9 613 798**	**10 607 120**
2.0 Management	2.2	0.5	0.2	2.0	27 838			27 838
2.1 Country focus	11.6	2.6	3.6	8.0	148 852		1 000 117	1 148 969
2.2 Prevention and control programmes	30.5	6.8	6.2	24.3	390 247		4 128 861	4 519 108
2.3 Training	14.8	3.3	4.3	10.4	188 674		3 894 044	4 082 718
2.4 Emergency preparedness	18.6	4.2	5.2	13.4	237 712		590 776	828 487
3. Future outlook	**19.1**	**4.1**	**4.2**	**14.8**	**243 438**	-	**2 996 768**	**3 240 206**
3.0 Management	1.1	0.2	0.1	1.0	14 101			14 101
3.1 Foresight	0.7	0.2	0.1	0.7	97 769		314 000	411 769
3.2 Engage	0.5	0.1	0.0	0.5	71 558		62 500	134 058
3.3 Support transformation	16.7	3.6	4.0	12.7	1 800 816		2 620 268	4 421 084
4. Increase EU health security through cooperation with non-EU partners	**14.9**	**3.2**	**6.1**	**8.9**	**1 634 619**	-	**43 195**	**1 677 814**
4.0 Management	1.7	0.4	1.1	0.5	189 479			189 479
4.1 Neighbourhood	7.5	1.6	2.5	4.9	821 280			821 280
4.2 Major CDCs	3.6	0.8	2.2	1.4	379 848			379 848
4.3 Coordination	2.2	0.5	0.2	1.9	244 012		43 195	287 208
5. Transform the organisation	**17.8**	**0.0**	**6.9**	**11.0**	**1 993 283**	**805 000**	**1 603 146**	**4 401 430**
5.0 Management	0.4	0.0	0.0	0.4	77 173			77 173
5.1 Integrated management framework	4.3	0.0	2.7	1.5	494 432	505 000		999 432
5.2 Engaged staff	10.0	0.0	2.4	7.6	1 100 536	45 000		1 145 536
5.3 Stakeholders and external communication	3.1	0.0	1.7	1.4	321 142	255 000	1 603 146	2 179 288

Strategic objective/Action Area	Total FTEs	Admin Staff	CA	TA	Title 1	Title 2	Title 3	TOTAL
6. Support services	**18.6**	**0.0**	**6.7**	**11.9**	**1 873 475**	**1 308 000**	**9 064 208**	**12 245 683**
6.0 Management	0.6	0.0	0.0	0.6	115 760			115 760
6.1 Digital Transformation Services	8.4	0.0	2.8	5.6	864 552	1 101 000	9 064 208	11 029 760
6.2 Resource management	9.7	0.0	3.9	5.8	893 163	207 000		1 100 163
8. Generic actions	**33.1**	**7.0**	**8.9**	**24.2**	**4 007 485**	-	-	**4 007 485**
0.0 Generic actions not related to core work	33.1	7.0	8.9	24.2	4 007 485			4 007 485
9. Benchmarking	**22.2**	**0.0**	**12.7**	**9.6**	**2 188 040**	-	-	**2 188 040**
9.0 Neutral category as per Benchmarking Methodology	22.2	0.0	12.7	9.6	2 188 040			2 188 040
Grand Total	**280.8**	**48.6**	**90.5**	**190.3**	**32 353 839**	**2 513 000**	**35 923 976**	**70 790 815**
Time not worked or not reported*	**72.2**				**9 963 895**	**6 897 610**	**-**	**16 861 504**
Total	**353.0**				**42 317 734**	**9 410 610**	**35 923 976**	**87 652 319**

*This line reflects time underreported by staff, sick leave, medical part-time, part-time work and 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 (2022)**	**N (2023)**
Grant agreements								
1. ERLTB-Net	A specific grant agreement signed each year under the four-year framework partnership agreement (FPA).	EUR 200 000 per year	Four years (FPA). One year (SGA)	Consortium led by Ospedale San Rafaele (1 SGA per annum)	Implementation of lab coordination activities, including lab network coordination, EQA, training, strain collection, typing, scientific advice and technical guidance on lab issues, methods harmonisation and network meeting.	Amount	EUR 199 969	EUR 189 299
						No. FTEs	0.25	0.5
						No. SNEs		
2. Scientific coordination of ECDC Fellowship Programme	Specific grant agreements signed each year under the four-year framework partnership agreements (FPAs).	EUR 550 000 per year	Four years (FPAs). One year (SGAs)	On average eight specific agreements with different counterparts per annum.	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	EUR 304 395	EUR 411 485
						No. FTEs	1.9	1.6
						No. SNEs		
3. ECDC Fellowship Programme: hosting of fellows.	Specific grant agreements signed each year under the four-year framework partnership agreements (FPAs). Q1 and Q3 in 2023.	Various (EUR 2.0–2.5 million/year)	Four years (FPAs). One year (SGAs)	A total of 44 specific grant agreements (for hosting cohorts 2021, 2022 and 2023) with different public health institutes.	ECDC Fellowship Programme (Intervention Epidemiology (EPIET) and Public Health Microbiology (EUPHEM) paths) hosting of fellows at training sites.	Amount	EUR 2 086 829	EUR 2 500 000
						No. FTEs	0.95	1.65
						No. SNEs		
4. Action grants for enhancing WGS and/or RT-PCR national infrastructures and capacities to respond to the COVID-19 pandemic in the EU and EEA.	Direct grant agreements, action grants without a call for proposal.	EUR 77 087 704 for 2021.	One year	In all, 24 grants to national public health authorities from EU and EEA Member States.	Supporting activities via the award of grants for action that directly leads to enhanced and/or improved national public health WGS and RT-PCR capacity.	Amount	EUR 1 982 938.20	Not in force for 2023
						No. FTEs	0.5	
						No. SNEs		
Total grant agreements						**Amount**	**EUR 4 574 131.20**	**EUR 3 100 784**
						No. of FTEs	**3.6**	**3.75**

	General information				Financial and HR impacts	
	Actual or expected date of signature	**Total amount**	**Duration**	**Short description**	**N-1 (2022)**	**N (2023)**
Contribution agreements						
ECDC-IPA6 2019/409-781 contribution agreement	10 December 2019	EUR 2 500 000	Five years	Preparatory measures for the participation of the Western Balkan countries and Turkey in ECDC's work, with special focus on 'One Health' against AMR and enhanced SARI surveillance, 2020-2024.	Amount: EUR 720 449 No. FTEs: 2 No. SNEs: 0	Amount: EUR 1 397 588.93 No. FTEs: 1 No. SNEs: 0
ECDC4Africa CDC contribution agreement	19 October 2020	EUR 9 000 000	Four years	The ECDC for Africa CDC action aims to: strengthen capacities of Africa CDC in preparedness, risk assessment, rapid response, and emergency operations; and 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: EUR 608 269 No. FTEs: 8.12 No. SNEs: 0	Amount: EUR 865 730 No. FTEs: 7.38 No. SNEs: 0
EU Initiative on Health Security contribution agreement	18 December 2020	EUR 9 000 000	Four years	The EU Initiative on Health Security aims to set up a competent regional 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: EUR 2 319 462.92 No. FTEs: 15.29 No. SNEs: 0	Amount: EUR 2 370 570 No. FTEs: 13.3 No. SNEs: 0
Reinforcement of EVIP through EU4Health contribution agreement	Q4 2022	EUR 1 000 000	30 months	Reinforcement of the European Vaccination Information Portal (EVIP) through continuous and dynamic updates of the website, including new vaccine developments, links to reliable sources, content development and translation, as well as paid promotion of EVIP.	Amount: EUR 58 368 No. FTEs: Two (towards the end of the year only). No. SNEs: 0	Amount: EUR 248 371 No. FTEs: Two No. SNEs: 0
Total contribution agreements					**Amount: EUR 3 778 450.64** **No. FTEs: 27.41**	**Amount: EUR 4 882 259.93** **No. FTEs: 23.68**
Service-Level Agreements						
None					Amount: No. FTEs: No. SNEs:	
Total service-level agreements					Amount: No. FTEs: Nr of SNEs:	

Annex 7. Environment management

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

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

ECDC is also implementing the EU Eco-Management and Audit Scheme (EMAS). The implementation of EMAS began in October 2019, when ECDC performed its first environmental assessment. The environmental assessment established that the main sources of CO_2 emissions for ECDC were trips related to missions and meetings, and for the purposes of recruitment and training courses. In 2022, ECDC completed the first seven steps of EMAS implementation by developing its first environmental management system. It will now initiate the certification process for official EMAS registration.

Measures to reduce the environmental impact of ECDC's operations

A total of 100% of ECDC's electricity is 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 LED, with occupancy sensors and daylight control systems. In 2021, ECDC introduced touchless taps, helping to reduce water consumption by up to 70%.

ECDC continues to improve its new recycling system, with separation of waste into paper, plastic, glass, organic, metal, e-waste, toners, lights and bulbs, batteries, corrugated cardboard, and boxes. In addition, ECDC asks some of its suppliers to provide environmental documentation, purchases eco-labelled products (such as stationery and cleaning detergents) and includes reference to ISO 14001 (the internationally recognised standard for environmental management systems (EMS)) in its tender specifications, where appropriate.

To reduce the environmental impact of transport, the Centre encourages its staff to use sustainable ways of commuting by providing facilities for bicycles and offering good connections to public transport.

ECDC's sustainable travel guidelines aim to improve ECDC's sustainability, reducing its carbon emissions and the number of trips taken on its behalf by focusing on business-critical travel only. When it is necessary to travel, the most environmentally-friendly travel options are chosen.

ECDC environmental objectives

As an agency of the European Union, ECDC recognises its responsibility towards the environment and the importance of implementing measures to control and lower the environmental impact of its operations. In 2023, the Agency continued its efforts towards greater environmental sustainability, focusing on selected areas for continuous improvement and accelerating its work to implement the EU Eco-Management and Audit Scheme (EMAS). The Agency applied for EMAS certification with the competent Swedish national authority in Q3 of 2023. (The certification was subsequently approved in January 2024).

Annex 8. Final annual accounts 2023

Final annual accounts of the European Centre for Disease Prevention and Control for 2023 will be accessible as a downloadable document at the following link:

https://www.ecdc.europa.eu/en/about-ecdc/who-we-are/key-documents/financial-documents

Annex 9. ECDC Management Board/Advisory Forum/Coordinating Competent Bodies

Members and Alternates of ECDC Management Board

Country	Name	Member/Alternate
Austria	Dr Sigrid Kiermayr	Member
	Nomination pending	Alternate
Belgium	Mr Lieven De Raedt	Member
	Mr Patrick Smits[25]	Alternate
Bulgaria	Dr Angel Kunchev	Member
	Ms Nataliya Spiridonova	Alternate
Croatia	Dr Bernard Kaić	Member
	Assistant Professor Krunoslav Capak	Alternate
Cyprus	Dr Rebecca Georgiou[26]	Member
	Dr Carolina Stylianou[27]	Alternate
Czechia	Dr Pavla Svrčinová	Member
	Mr Matyáš Fošum	Alternate
Denmark	Ms Kirstine Moll Harboe[28]	Member
	Mr Gideon Ertner[29]	Alternate
Estonia	Ms Heli Laarmann	Member
	Nomination pending	Alternate
Finland	Dr Anni-Riitta Virolainen-Julkunen	Member
	Dr Taneli Puumalainen	Alternate
France	Dr Caroline Semaille[30]	Member
	Ms Anne-Catherine Viso	Alternate
Germany	Dr Ute Teichert	Member
	Dr Gesa Lücking	Alternate
Greece	Dr Christakis Hadjichristodoulou[31]	Member
	Dr Georgia Kourlampa[32]	Alternate
Hungary	Ms Ágnes Dánielisz	Member
	Ms Krisztina Biró	Alternate
Ireland	Dr Colette Bonner	Member
	Mr Daniel Shine[33]	Alternate
Italy	Dr Francesco Maraglino	Member
	Dr Sandro Bonfigli	Alternate
Latvia	Ms Jana Feldmane	Member
	Professor Dzintars Mozgis	Alternate
Lithuania	Dr Audrius Ščeponavičius	Member
	Nomination pending	Alternate

[25] Appointed Alternate as of January 2023.
[26] Appointed Member in replacement of Dr Irene Cotter, as of October 2023.
[27] Appointed Alternate in replacement of Ms Maroussa Konnari Jeronymides, as of November 2023.
[28] Appointed Member as of November 2023.
[29] Appointed Alternate in replacement of Ms Line Raahauge Hvass, as of May 2023.
[30] Appointed Member in replacement of Professor Geneviève Chêne, as of March 2023
[31] Appointed Member in replacement of Professor Theoklis Zaoutis, as of October 2023.
[32] Appointed Alternate in replacement of Mr Georgios Anastopoulos, as of October 2023.
[33] Appointed Alternate from January to October 2023, nomination pending.

Country	Name	Member/Alternate
Luxembourg	Dr Jean-Claude Schmit	Member
	Dr Thomas Dentzer[34]	Alternate
Malta	Dr Patricia Vella Bonanno	Member
	Dr Mariella Borg Buontempo	Alternate
Netherlands	Ms Florien van der Windt[35]	Member
	Mr Bas Joost Lambert Derks[36]	Alternate
Poland	Mr Dariusz Poznański	Member
	Mr Michał Ilnicki	Alternate
Portugal	Dr Rita Sá Machado[37]	Member
	Ms Cristina Abreu Santos	Alternate
Romania	Dr Amalia Şerban	Member
	Dr Anca Sîrbu	Alternate
Slovakia	Dr Ján Mikas	Member
	Ms Lucia Paulíková	Alternate
Slovenia	Dr Mario Fafangel[38]	Member
	Dr Mojca Gobec[39]	Alternate
Spain	Dr Pilar Aparicio Azcárraga Dr Manuel Cuenca Estrella	Member Alternate
Sweden	Dr Karin Tegmark Wisell	Member
	Dr Camilla Wallander[40]	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[41] Mr Laurent Muschel[42] Mr John F Ryan[43] Ms Isabel de la Mata Barranco[44] Ms Ingrid Keller[45] Ms Barbara Kerstiëns Ms Catherine Berens	Member Member Alternate Alternate Member Alternate
Iceland (EEA/EFTA)	Ms Ásthildur Knútsdóttir	Member
	Ms Gudlin Steinsdottir	Alternate
Liechtenstein (EEA/EFTA)	Dr Silvia Dehler	Member
Norway (EEA/EFTA)	Mr Øystein Riise	Member
	Mr Oliver Kacelnik	Alternate

[34] Appointed Alternate from January to March 2023, nomination pending.
[35] Appointed Member in replacement of Mr Bas Joost Lambert Derks, as of February 2023.
[36] Appointed Alternate as of February 2023.
[37] Appointed Member in replacement of Professor André Peralta-Santos, as of November 2023.
[38] Appointed Member as of November 2023.
[39] Appointed Alternate as of November 2023.
[40] Appointed Alternate in replacement of Mr Dariosh Bidar, as of October 2023.
[41] Appointed Member from January to September 2023, nomination pending.
[42] Appointed Alternate as of April 2023.
[43] Appointed Member from January to September 2023.
[44] Appointed Alternate as of April 2023.
[45] Appointed Alternate from January to April 2023.

Members and Alternates of the ECDC Advisory Forum

Country	Name	Member/Alternate
Austria	Professor Dr Petra Apfalter	Member
	Dr Bernhard Benka	Alternate
Belgium	Nomination pending	Member
	Dr Koen Blot	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	Alternate
Czechia	Dr Jan Kynčl	Member
	Dr Kateřina Fabiánová	Alternate
Denmark	Professor Henrik Ullum	Member
	Dr Tyra Grove Krause	Alternate
Estonia	Ms Kärt Sõber[46]	Member
	Dr Natalia Kerbo	Alternate
Finland	Dr Mika Salminen	Member
	Dr Carita Savolainen-Kopra	Alternate
France	Dr Bruno Coignard	Member
	Dr Henriette de Valk[47]	Alternate
Germany	Dr Osamah Hamouda	Member
	Dr Ute Rexroth	Alternate
Greece	Dr Sotirios Tsiodras	Member
	Mr Dimitrios Hatzigeorgiou[48]	Alternate
Hungary	Ms Zsuzsanna Molnár	Member
	Ms Ágnes Hajdu	Alternate
Ireland	Dr Greg Martin[49]	Member
	Dr Éamonn O'Moore[50]	Alternate
Italy	Dr Silvia Declich	Member
	Dr Giuseppe Ippolito	Alternate
Latvia	Dr Jurijs Perevoščikovs	Member
	Nomination pending	Alternate
Lithuania	Ms Jugita Pakalniškienė	Member
	Ms Rolanda Valintėlienė[51]	Alternate
Luxembourg	Dr Isabel De La Fuente Garcia	Member
	Dr Anne Vergison[52]	Alternate
Malta	Dr Charmaine Gauci	Member
	Dr Tanya Melillo Fenech	Alternate
Netherlands	Professor Dr Jaap van Dissel	Member
	Dr Susan van den Hof	Alternate

[46] Appointed Member as of March 2023.
[47] Appointed Alternate in replacement of Ms Isabelle Bonmarin, as of July 2023.
[48] Appointed Alternate in replacement of Professor Dimitrios Paraskevis, as of November 2023.
[49] Appointed Member in replacement of Dr Lorraine Doherty, as of January 2023.
[50] Appointed Alternate in replacement of Dr Derval Igoe, as of January 2023.
[51] Appointed Alternate from January to February 2023, nomination pending.
[52] Appointed Alternate in replacement of Professor Friedrich Muehlschlegel, as of March 2023.

Country	Name	Member/Alternate
Poland	Dr Malgorzata Sadkowska-Todys	Member
	Dr Magdalena Rosińska	Alternate
Portugal	Mr Carlos Matias Dias	Member
	Dr Pedro Miguel Silva Azevedo Ferreira[53]	Alternate
Romania	Dr Adriana Pistol	Member
	Dr Radu Cucuiu	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[54]	Alternate
Sweden	Ms Anneli Carlander	Member
	Dr Birgitta Lesko	Alternate
Observers		
Albania (candidate country)	Nomination pending	
Iceland (EEA/EFTA)	Ms Kamilla Jósefsdóttir	Member
	Ms Gudrun Aspelund	Alternate
Liechtenstein (EEA/EFTA)	Nomination pending	Member
Montenegro (candidate country)	Nomination pending	Observer
Norway (EEA/EFTA)	Dr Trygve Ottersen	Member
	Dr Preben Aavitsland	Alternate
Serbia (candidate country)	Nomination pending	
North Macedonia (candidate country)	Nomination pending	
Turkey (candidate country)	Professor Mustafa Gokhan Gozel	Observer
Non-governmental organisations		
European Institute of Women's Health	Ms Rebecca Moore	Member
European Public Health Association Association of Schools of Public Health in the European Region	Dr Aura Timen	Member
	Mr John Duncan Middleton	Member
European Liver Patients' Association	Mr Marko Korenjak	Alternate
European Society for Blood and Marrow Transplantation	Mr Jose Rafael De la Camara De Llanza	Alternate
European Association of Hospital Pharmacists	Ms Inese Sviestina	Alternate

[53] Appointed Alternate in replacement of Dr Ana Maria Correia, as of January 2023.

[54] Appointed Alternate from January to February 2023, nomination pending.

ECDC Coordinating Competent Bodies

Country	Name of Coordinating Competent Body
Austria	**Federal Ministry of Social Affairs, Health, Care and Consumer Protection** Radetzkystrasse 2, 1031 Vienna http://www.bmg.gv.at
Belgium	**Sciensano** Rue Juliette Wytsman, 14 1050 Brussels https://www.sciensano.be/en
Bulgaria	**National Center of Infectious and Parasitic Diseases** Yanko Sakazov Blvd. 26, 1504 Sofia http://www.ncipd.org
Croatia	**Croatian Institute of Public Health** Rockefellerova 7, 10000 Zagreb http://www.hzjz.hr
Cyprus	**Directorate of Medical and Public Health Services** Ministry of Health 1 Prodromou, 1449 Nicosia http://www.moh.gov.cy/moh/moh.nsf/index_en/index_en
Czechia	**National Institute of Public Health** Šrobárova 48, 10042 Prague 10 http://www.szu.cz
Denmark	**Danish Health Authority** Axel Heides Gade 1, 2300 Copenhagen http://sundhedsstyrelsen.dk
Estonia	**Health Board** Paldiski road 81, 10614 Tallinn http://www.terviseamet.ee
Finland	**National Institute for Health and Welfare** Mannerheimintie 166, 00271 Helsinki http://www.thl.fi
France	**French Public Health Agency** 12 rue du Val d'Osne, 94415 Saint-Maurice http://www.santepubliquefrance.fr
Germany	**Robert Koch Institute** Nordufer 20, 13353 Berlin http://www.rki.de
Greece	**National Public Health Organization** Agrafon Street 3-5, 15123 Marousi https://eody.gov.gr/eody/
Hungary	**National Center for Public Health and Pharmacy** Albert Flórián út 2-6, 1097 Budapest https://www.nnk.gov.hu
Iceland	**Centre of Health Security and Communicable Disease Prevention** Austurströnd 5, 170 Seltjarnarnes http://www.landlaeknir.is
Ireland	**Health Protection Surveillance Centre** 25-27 Middle Gardiner Street, Dublin http://www.hpsc.ie
Italy	**Ministry of Health** Via Giorgio Ribotta 5, 00144 Rome http://www.salute.gov.it

Country	Name of Coordinating Competent Body
Latvia	**Centre for Disease Prevention and Control** Duntes 22, 1005 Riga http://spkc.gov.lv
Liechtenstein	**Principality of Liechtenstein** Äulestrasse 51, 9490 Vaduz http://www.ag.llv.li
Lithuania	**Ministry of Health** Vilniaus 33, 01506 Vilnius http://www.sam.lt
Luxembourg	**Directorate of Health** 13a rue de Bitburg, 1273 Luxembourg http://www.sante.public.lu
Malta	**Superintendence of Public Health** Ministry of Health St Luke's Hospital, Pjazza San Luqa MRS9010 Pieta https://deputyprimeminister.gov.mt/en/sph/Pages/Superintendence-of-Public-Health.aspx
Netherlands	**National Institute for Public Health and the Environment** Antonie van Leeuwenhoeklaan 9, 3720 BA Bilthoven http://www.rivm.nl
Norway	**National Institute of Public Health** PO BOX 4404 Nydalen, 0403 Oslo http://www.fhi.no
Poland	**National Institute of Public Health – National Institute of Hygiene** 24 Chocimska Street, 00791 Warsaw http://www.pzh.gov.pl
Portugal	**Directorate General of Health** Ministry of Health Alameda D. Afonso Henriques 45, 1049-005 Lisbon www.dgs.pt
Romania	**National Institute of Public Health** Dr Leonte Anastasievici 1-3, Sector 5, 050463 Bucharest http://www.insp.gov.ro/
Slovakia	**Public Health Authority of the Slovak Republic** Trnavská cesta 52, 82645 Bratislava http://www.uvzsr.sk
Slovenia	**National Institute of Public Health** Trubarjeva cesta 2, 1000 Ljubljana http://www.nijz.si
Spain	**Ministry of Health, Social Services and Equality** Paseo del Prado 18–20, 7 planta, 28071 Madrid http://www.msssi.es
Sweden	**Public Health Agency of Sweden** Nobels väg 18, 17182 Solna http://folkhalsomyndigheten.se/

Annex 10. ECDC outputs published in 2023

Risk assessments

January
Threat Assessment Brief: Implications for the EU/EEA of the spread of the SARS-CoV-2 Omicron XBB.1.5 sub-lineage
Variant Creutzfeldt-Jacob disease in donors of blood and plasma having temporarily resided in or visited the United Kingdom

February
Outbreak of *Shigella sonnei* in the EU/EEA, the United Kingdom, and the United States among travellers returning from Cabo Verde

March
Multi-country outbreak of *Salmonella* Virchow ST16 infections linked to the consumption of meat products containing chicken meat (jointly with EFSA)

July
Multi-country outbreak of *Salmonella* Senftenberg ST14 infections possibly linked to cherry-like tomatoes (jointly with EFSA)

August
Coronavirus disease 2019 (COVID-19) and supply of substances of human origin in the EU/EEA - Third update

October
Three clusters of *Salmonella* Enteritidis ST11 infections linked to chicken meat and chicken meat products (jointly with EFSA)

December
Implications for the EU/EEA of the outbreak of mpox caused by Monkeypox virus clade I in the Democratic Republic of the Congo

Prolonged multi country cluster of *Listeria monocytogenes* ST155 infections (jointly with EFSA)

Technical reports

January
Pilot study outline for targeted genomic surveillance of SARS-CoV-2 in travellers in response to a worsening or unknown epidemiological situation in a third country

Guidelines in response to the worsening of the epidemiological situation - Addendum to the Aviation Health Safety Protocol (jointly with EASA)

Core protocol for ECDC studies of COVID-19 vaccine effectiveness against hospitalisation with Severe Acute Respiratory Infection, laboratory-confirmed with SARS-CoV-2 or with seasonal influenza - Version 2.0

Protocol for a COVID-19 vaccine effectiveness study using health data registries

February
Considerations for infection prevention and control practices in relation to respiratory viral infections in healthcare settings

March
Interim analysis of COVID-19 vaccine effectiveness against Severe Acute Respiratory Infection due to SARS-CoV-2 in individuals aged 20 years and older – fourth update

Conducting after-action reviews of the public health response to COVID-19: update

Literature review on the state of biocide resistance in wild vector populations in the EU and neighbouring countries

April
Interim public health considerations for COVID-19 vaccination roll-out during 2023

Public health considerations for mpox in EU/EEA countries

May
Lessons from the COVID-19 pandemic - May 2023

June
Simulation exercises in public health settings - Step-by-step exercise design

Enhanced surveillance of severe avian influenza virus infections in hospital settings in the EU/EEA

July
Pilot protocol for influenza vaccine effectiveness against laboratory-confirmed influenza infections using healthcare worker cohorts

Generic protocol for COVID-19 vaccine effectiveness in preventing transmission of infection in healthcare settings

SARS-CoV-2 variant mutations conferring reduced susceptibility to antiviral drugs and monoclonal antibodies: a non-systematic literature review for surveillance purposes

Sample size guidance for surveillance data

August
Impact of selected non-pharmaceutical interventions on EU adults' work-life balance during the COVID-19 pandemic (jointly with Eurofound)

September
Handbook on tuberculosis laboratory diagnostic methods in the European Union - updated 2023

Surveillance, prevention and control of West Nile virus and Usutu virus infections in the EU/EEA (jointly with EFSA)

Targeted surveillance to identify human infections with avian influenza virus during the influenza season 2023/24, EU/EEA

October
Core protocol for ECDC studies of vaccine effectiveness against symptomatic laboratory-confirmed influenza or SARS-CoV-2 infection at primary care level

The Swedish advice-making process for distance learning in schools, November 2020 – April 2021 (jointly with the Public Health Agency of Sweden)

Seasonal influenza vaccination recommendations and coverage rates in EU/EEA Member States

EU Laboratory Capability Monitoring System (EULabCap), 2021

Evidence-based advice processes for long-term care facilities in the COVID-19 pandemic - Report from the after-action review (AAR) in Norway

Standard laboratory protocols for SARS-CoV-2 characterisation

Evidence-based advice processes for long-term care facilities in the COVID-19 pandemic - Aggregate report from the After-Action reviews in Georgia and Norway

November
Interim analysis of COVID-19 vaccine effectiveness against hospitalisation and death using electronic health records in six European countries

Prevention and control of infectious diseases among people who inject drugs - 2023 update (jointly with EMCDDA)

December
Survey report on laboratory capacity for molecular diagnosis and characterisation of zoonotic influenza viruses in human specimens in EU/EEA and the Western Balkans

Investigation protocol of human cases of avian influenza virus infections in EU/EEA

EU/EEA country survey on measures applied to protect exposed people during outbreaks of highly pathogenic avian influenza

Factsheets

January
Aedes aegypti - Factsheet for experts

February
Factsheet on Nipah virus disease

March
Factsheet on swine influenza in humans and pigs

April
Factsheet about Marburg virus disease

May
Factsheet on COVID-19

June
Factsheet for health professionals on mpox (monkeypox)

July
Factsheet on A(H3N8)

August
Factsheet about dengue

Surveillance reports

January
Point prevalence survey of healthcare-associated infections and antimicrobial use in European long-term care facilities 2016–2017

February
Pre-exposure prophylaxis for HIV prevention in Europe and Central Asia Monitoring implementation of the Dublin Declaration – 2022 progress report

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

Tuberculosis surveillance and monitoring in Europe 2023 - 2021 data (jointly with WHO Europe)

The spatial relationship between the presence and absence of *Leishmania* spp. and leishmaniasis, and phlebotomine sand fly vectors in Europe and neighbouring countries

April
Antimicrobial resistance surveillance in Europe 2023 - 2021 data (jointly with WHO Europe)

Poliomyelitis situation update

Estimated incidence of bloodstream infections with three key pathogens in the EU/EEA in 2019

Twelfth external quality assessment scheme for *Salmonella* typing

May
Point prevalence survey of healthcare-associated infections and antimicrobial use in European acute care hospitals 2016–2017

Increase in *Escherichia coli* isolates carrying bla_{NDM-5} in the European Union/European Economic Area, 2012–2022

External quality assessment scheme for *Bordetella pertussis* vaccine antigen expression, 2021

External quality assurance scheme for *Bordetella pertussis* antimicrobial susceptibility testing, 2022

September
Evidence brief: Progress towards reaching the Sustainable Development Goals related to HIV in Europe and Central Asia

Tuberculosis molecular surveillance status report, focussing on rifampicin and multi-drug resistance in the EU/EEA

HIV testing in Europe and Central Asia - Monitoring implementation of the Dublin Declaration on partnership to fight HIV/AIDS in Europe and Central Asia: 2022 progress report

Stigma: survey of people living with HIV - Monitoring implementation of the Dublin Declaration on partnership to fight HIV/AIDS in Europe and Central Asia: 2022 progress report

October
Eleventh external quality assessment scheme for typing of Shiga toxin-producing *Escherichia coli*

November
Surveillance of antimicrobial resistance in Europe, 2022 data (jointly with WHO Europe)

HIV/AIDS surveillance in Europe 2023 (2022 data) (jointly with WHO Europe)

Carbapenem- and/or colistin-resistant *Klebsiella pneumoniae* in Greece: molecular follow-up survey 2022

HIV and migrants - Monitoring the implementation of the Dublin Declaration on partnership to fight HIV/AIDS in Europe and Central Asia: 2022 progress report

Continuum of HIV care - Monitoring implementation of the Dublin Declaration on partnership to fight HIV/AIDS in Europe and Central Asia: 2022 progress report

Ninth external quality assessment scheme for *Listeria monocytogenes* typing

External quality assessment (EQA) of the performance of laboratories participating in the European Antimicrobial Resistance Surveillance Network (EARS-Net), 2022

December
The spatial distribution of Crimean-Congo haemorrhagic fever in Europe and neighbouring areas

Corporate publications

January
Single Programming Document 2023–2025

June
Consolidated annual activity report 2022

September
Highlights from the Consolidated Annual Activity Report - Achievements, challenges and major outputs 2022

December
Amended ECDC Strategy 2021–2027

Regular publications

Influenza virus characterisation, summary Europe
Communicable disease threats report
Surveillance and disease data for measles (maps)
Weekly updates: 2023 West Nile virus transmission season (europa.eu) (maps)

Annual Epidemiological Report series on communicable diseases in Europe

New chapters are published as they become available.

Overview table

January
Salmonellosis - Annual Epidemiological Report for 2018
Malaria - Annual Epidemiological Report 2020
Hantavirus infection - Annual Epidemiological Report for 2020
Salmonellosis - Annual Epidemiological Report for 2019
Botulism - Annual Epidemiological Report for 2018
Botulism - Annual Epidemiological Report for 2017
Botulism - Annual Epidemiological Report for 2020
Listeriosis - Annual Epidemiological Report for 2019
Listeriosis - Annual Epidemiological Report for 2018
Botulism - Annual Epidemiological Report for 2019

February
Hepatitis C - Annual Epidemiological Report for 2021
Gonorrhoea - Annual Epidemiological Report for 2019

March
Variant Creutzfeldt–Jakob disease - Annual Epidemiological Report for 2020
Zoonotic influenza - Annual Epidemiological Report for 2021
Zika virus disease - Annual Epidemiological Report for 2020
Crimean-Congo haemorrhagic fever - Annual Epidemiological Report for 2020
Brucellosis - Annual Epidemiological Report for 2021
Listeriosis - Annual Epidemiological Report for 2020

April
Measles - Annual Epidemiological Report for 2022
Hepatitis A - Annual Epidemiological Report for 2017

May

Healthcare-associated infections: surgical site infections - Annual Epidemiological Report for 2018–2020

Healthcare-associated infections acquired in intensive care units - Annual Epidemiological Report for 2018

Healthcare-associated infections acquired in intensive care units - Annual Epidemiological Report for 2019

Zoonotic influenza - Annual Epidemiological Report for 2022

Typhoid and paratyphoid fever - Annual Epidemiological Report for 2019

Typhoid and paratyphoid fever - Annual Epidemiological Report for 2018

June

Cholera - Annual Epidemiological Report for 2021

Dengue - Annual Epidemiological Report for 2021

Chikungunya virus disease - Annual Epidemiological Report for 2021

Malaria - Annual Epidemiological Report for 2021

Zika virus disease - Annual Epidemiological Report for 2021

July

Legionnaires' disease - Annual Epidemiological Report for 2021

Seasonal influenza - Annual Epidemiological Report for 2022/2023

August

Botulism - Annual Epidemiological Report for 2021

Leptospirosis - Annual Epidemiological Report for 2021

Anthrax - Annual Epidemiological Report for 2021

Tuberculosis - Annual Epidemiological Report for 2021

Congenital toxoplasmosis - Annual Epidemiological Report for 2020

October

Syphilis - Annual Epidemiological Report 2021

Congenital syphilis - Annual Epidemiological Report for 2021

Tetanus - Annual Epidemiological Report for 2021

Mumps - Annual Epidemiological Report 2021

Invasive meningococcal disease - Annual Epidemiological Report for 2021

November

Antimicrobial resistance in the EU/EEA (EARS-Net) - Annual epidemiological report for 2022

Antimicrobial consumption in the EU/EEA (ESAC-Net) - Annual Epidemiological Report for 2022

December

Gonorrhoea - Annual Epidemiological Report for 2021

Chlamydia - Annual Epidemiological Report for 2021

Lymphogranuloma venereum - Annual Epidemiological Report for 2021

Trichinellosis - Annual Epidemiological Report for 2021

Diphtheria - Annual Epidemiological Report for 2021

Annex 11. Negotiated procedures without prior publication of a contract notice conducted in 2023

Reference	Title	Type of procedure: Art. 11.1. of the Financial Regulation	Amount (EUR)	Contractor	Contract reference
NP/2023/DIR/25425	ECDC and EMA organised sessions at the European Health Forum Gastein	Annex 1 - 11.1 (b) - Artistic/technical reasons or exclusive rights or technical monopoly/captive market	480 000.00	EUROPEAN HEALTH FORUM GASTEIN*EUROP	ECDC/2023/030
NP/2023/DPR/26521	Support to microbiology-related activities and capacity building focusing on COVID-19 and influenza in the EU/EEA, the Western Balkans and Turkey and includes laboratory support, training, and standardisation. Lot 1: Centralised laboratory support.	Annex 1 - 11.1 (e) - New services/works consisting in the repetition of similar services/works	7 057 000.00	KONINKRIJK DER NEDERLANDEN *ROYAUM	ECDC/2022/001
NO REFERENCE ASSIGNED	Support for microbiology-related activities and capacity-building, focusing on COVID-19 and influenza in the EU/EEA, the Western Balkans and Turkey, including laboratory support, training, and standardisation. Lot 1: Centralised laboratory support.	Amendment Point 11 Annex I FR 2018 (Art.134 (e) RAP FR2012)	1 000 000.00	KONINKRIJK DER NEDERLANDEN* ROYAUM	ECDC/2022/001

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