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ECDC MEETING REPORT

Annual Meeting of National ECDC Correspondents in the Western Balkans and Türkiye

23 November 2022, ECDC, Stockholm, Sweden

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1 Background

ECDC, under the coordination of the National ECDC Correspondents, has been working with the national authorities in the Western Balkans (Albania, Bosnia and Herzegovina, Kosovo[1], Montenegro, Serbia, North Macedonia) and Türkiye to support and strengthen their capacities for participation in ECDC in the future, as part of their process towards EU membership. In the framework of ECDC technical cooperation activities supported by the European Commission under the consecutive projects financed by the Instrument of Pre-accession Assistance (IPA), representatives from the countries participate as observers in ECDC activities, meetings, networks, and technical discussions related to epidemic intelligence, threat detection, communicable disease surveillance and control, preparedness and response.

One of the five strategic objectives of the ECDC Strategy 2021–2027 is dedicated to increasing health security in the EU through international collaboration and alignment regarding infectious disease policies and practice. This can be achieved by strengthened cooperation and coordination between ECDC and partners in non-EU countries, in particular, building up collaboration with the EU enlargement countries, while ensuring a coordinated approach with the World Health Organization Regional Office for Europe (WHO/Europe) to avoid duplication. ECDC cooperates with the Western Balkans and Türkiye through:

1. Implementing ECDC Action funded by the Directorate-General for Neighbourhood and Enlargement Negotiations (DG NEAR) of the European Commission, under IPA (Instrument of Pre-accession Assistance) on '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).
2. Supporting the Western Balkans with whole genome sequencing services for SARS-CoV-2.
3. Engaging them in the Mediterranean and Black Sea Programme for Intervention Epidemiology Training (MediPIET) as part of the EU Initiative on Health Security under ENI (European Neighbourhood Instrument).

The cooperation with the Western Balkans and Türkiye is reviewed, defined and planned by ECDC through dialogue with officially nominated National ECDC Correspondents, primarily at the annual meetings.

1.1 Scope and objectives of the meeting

Following up on the discussions at the previous annual meeting in 2021 and reflecting on recent developments at ECDC, this annual meeting of National ECDC Correspondents and Observers National Focal Point (NFP) for Surveillance focused on the developments in technical cooperation over the last year. It aimed to generate reflections on key priorities for ECDC support in the future to national authorities in the Western Balkans and Türkiye. To keep more stakeholders from the Western Balkans and Türkiye informed and engaged, the annual meeting was organised in hybrid format. The agenda of the meeting along with links to the presentations delivered are available in Annex 1 (accessible via double-clicking the respective images).

The specific objectives of the meeting were:

- to update National ECDC Correspondents on recent developments related to the reinforced mandate of ECDC;
- to update National ECDC Correspondents on future policy priorities of the European Commission (DG NEAR) on health security for the Western Balkans and Türkiye;
- to reflect on the achievements, lessons learned, and next steps in the specific areas of cooperation, implemented through the ECDC-IPA6 project, in particular, with regard to strengthening surveillance and follow-up on the implementation of *EU acquis* on communicable diseases;
- to discuss and reflect on the future needs of the countries for support to strengthen cooperation between ECDC and the national authorities in the Western Balkans and Türkiye.

1.2 Participants

The participants invited to the meeting were:

- National ECDC Correspondents (on-site)
- Observers NFP for Surveillance (on-site)
- Observers NFP for Respiratory Viral Diseases and related CPOs (remotely)
- Observers NFP for Emerging and Vector-borne Diseases and related CPOs (remotely)
- Observers NFP for Microbiology (remotely)
- Observers NFP for Threat Detection (remotely)
- Observers NFP for Preparedness and Response (remotely)

A list of participants of the meeting is available in Annex 2.

[1] 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.

2 Content

2.1 Reinforced ECDC mandate and strengthened international role

In response to the COVID-19 pandemic, as part of the European Health Union, the European Council has adopted:

- **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**
- Regulation (EU) 2022/2371 of the European Parliament and of the Council of 23 November 2022 on serious cross-border threats to health and repealing Decision No 1082/2013/EU

With the Regulation 2022/2370, the European Council has reinforced ECDC's mandate in multiple areas of its operations:

Improving epidemiological surveillance

- ✓ Digitalisation of integrated surveillance systems enabling real-time surveillance.
- ✓ Support Member States with integrated surveillance systems, and further develop digital platforms.
- ✓ More effective conduction of Epidemic intelligence (EI) – using information technology, such as artificial intelligence.

Foresight, modelling and research priority setting

- ✓ Modelling, anticipation and scenario development for response.
- ✓ Contribute to research priorities and actions funded by EU instruments.

Better preparedness and response in Member States

- ✓ Develop prevention and response plans, and elaborate assessment frameworks.
- ✓ Propose non-binding recommendations for risk management.

European Union Health Task Force (EUHTF) – expanded capacity to mobilise and deploy the EUHTF providing:

- ✓ effective operational response and preparedness support / contribution to global health security;
- ✓ timely emergency response during outbreaks and crises;
- ✓ support to countries' emergency preparedness endeavours.

Health systems capacity

- ✓ Monitor and assess health systems capacity for diagnosis, prevention and treatment.
- ✓ Support the network of EU reference laboratories and substances of human origin (SoHO).
- ✓ Expand work on prevention (e.g. AMR, vaccination and biosecurity).

Expanded international role

- ✓ Contribute to EU's international cooperation and development/commitment to global health security preparedness.
- ✓ Intensify collaboration with international partners (WHO), EU neighbouring countries, and other communicable disease centres (CDCs).

2.2 EU enlargement policy, its priorities on health security, and related financial programming

Representatives from DG NEAR provided updates on EU Health Policy and *EU acquis* within the EU accession framework and processes.

2.3 EU financial instruments and programmes available for national public health authorities in the Western Balkans and Türkiye

In addition, DG NEAR presented the financial instruments and programmes which are relevant to public health authorities in the Western Balkans and Türkiye, namely the Instrument for Pre-accession Assistance (IPA), the Technical Assistance and Information Exchange (TAIEX and Twinning) instrument, and the EU4Health programme.

In the field of health, IPA III Implementing Regulation focuses on: i) alignment with and implementation of *EU acquis* in the field of public health, including health security; ii) reform of health systems with regard to raising the coverage and standards of care; and iii) strengthening public health systems' preparedness and resilience to cross-border health threats.

Examples of EU funding of regional programmes, national programmes under IPA, as well as good practices of using TAIEX and Twinning as institution-building instruments were provided.

Participation of the Western Balkans and Türkiye in the EU4Health programme was strongly encouraged and representatives were invited to liaise with the Ministries of Health (and EU Delegations) in their respective countries

to facilitate and speed up the negotiation process with the Directorate-General for Health and Food Safety (DG SANTE).

At the time of the annual meeting, no country in the region had yet signed an agreement with DG SANTE on participation in EU4Health programme, but negotiations with North Macedonia, Bosnia and Herzegovina, and Serbia were ongoing. Negotiations will soon start with Montenegro. The EU (DG NEAR) can financially contribute to part of the fees paid by countries. Interested countries should approach the contact points in EU Delegations.

2.4 ECDC-IPA6 project: Preparatory measures for participation of the Western Balkans and Türkiye in ECDC

The ECDC-IPA6 project is structured around three work streams of activities to be implemented during 2020–2024:

Work Stream 1. Preparatory measures for the participation of the Western Balkans and Türkiye in ECDC (systems, networks, activities)
Objective: To support national authorities in the implementation of *EU acquis* on serious cross-border threats to health, and in particular, by strengthening surveillance, preparedness, and microbiology laboratory system capacities supporting public health.

Work Stream 2. Advancement of One-Health responses against AMR in the Western Balkans (ECDC/EFSA)
Objective: To conduct gap analysis and enable implementation of country roadmaps on One-Health against AMR, as well as support the development of electronic surveillance of AMR.

Work Stream 3. Enhancement of SARI surveillance in the Western Balkans
Objective: To support the implementation of fit-for-purpose surveillance systems in the Western Balkans and engage on vaccine-effectiveness studies.

Under the Work Stream 1, the progress on activities implemented and the level of integration of national authorities in ECDC networks and structures were presented. The number of experts attending various ECDC meetings and training workshops, as well as engagement of countries in ECDC activities increased significantly during 2022.

2.4.1 Integration of the Western Balkans and Türkiye in ECDC data sharing systems, procedures, and outputs: progress and future outlook

Surveillance activities

The overview of the integration process of the Western Balkans and Türkiye in ECDC data sharing systems, procedures, and outputs were provided. The focus was on progress and future outlook for surveillance activities.

Overview of TESSy reporting:

Table 1. Diseases reported to TESSy and data format, 2017–2021

Disease	AL	BA	ME	MK	RS	TR*	XK
Gonorrhoea	C		C	C	A		C
Hepatitis A	A		C	C	A		A
West Nile Virus	C		C	C	C	C	C

*Türkiye reported gonorrhoea cases in 2017 and 2018 and hepatitis A cases in 2017

Table 2. Diseases or Syndromes reported to TESSy and data format, 2022

Diseases or Syndrome	AL	BA	ME	MK	RS	TR	XK
SARI	A	A	A	A	A	A	A
COVID-19	A	A	A	A		A	A
Influenza	A	A	A	A	A	A	A
Mpx		C			C	C	
Hepatitis of unknown aetiology					C		

Legend 1
Fully Reported
Partially Reported (not reported for all years or weeks)
Not Reported
Not yet reported
Did not participate

Legend 2
A = aggregate data
C = case-based data

ECDC Emerging Vector-borne Diseases (EVD)

The overview of ECDC EVD group activities and networks were presented and the future engagement of the Western Balkans and Türkiye discussed.

European Legionnaires' Disease Surveillance Network (ELDSNet) and Travel-associated Legionnaires' Disease (TALD)

A proposal to integrate the Western Balkans and Türkiye in the Legionnaires' disease activities conducted by ECDC (ELDSNet and TALD) was presented.

Participation in Euro-GASP

ECDC presented the European Gonococcal Antimicrobial Surveillance Programme (Euro-GASP) which aims to provide quality-assured antimicrobial susceptibility data on therapeutically relevant antimicrobials to inform European and other regional and national gonorrhoea treatment guidelines, and detect emerging antimicrobial resistance as well as monitor trends in antimicrobial resistance.

The opportunities to expand Euro-GASP in the Western Balkans and Türkiye were presented.

Microbiology support

ECDC strategy for integrated genomic typing and large-scale training programmes in genomic epidemiology and public health bioinformatics were presented, with relevance to the Western Balkans and Türkiye.

Resuming European Neighbourhood Laboratory Capability Monitoring System (ENLabCap) survey

ENLabCap will resume at the beginning of 2023. Western Balkans and Türkiye will be invited to collect and submit their 2021 data. The overview of the ENLabCap structure, the tool, its adjustments, and timeline were presented.

ECDC preparedness and response activities

ECDC presented the overview of the new, post-pandemic emergency preparedness and response support it provides.

2.4.2 ECDC long-term surveillance framework and strengthening surveillance in the Western Balkans and Türkiye

The strategic framework for EU/EEA surveillance considers the ECDC long-term surveillance framework, new ECDC mandate, and the new cross-border health threat regulation. It encompasses public health action and addresses integration, innovation, capacity building, and preparedness.

Prioritisation of diseases under surveillance has been ongoing since 2021 in consultation with the ECDC National Focal Points for Surveillance panel, applying standard criteria. ECDC will submit a proposal for the new implementing act by the Commission. It is expected that the result will be a list with fewer diseases, some of which will be under event-based surveillance, event definitions will be introduced, and the focus will be public health value/action. The potential criteria will include at least one of the following:

- ✓ Significant morbidity OR significant mortality OR emerging disease (increasing five-year trend) in a sizeable fraction of Member States.
- ✓ Potential to cause cross-border outbreaks.
- ✓ High-threat pathogen (transmissibility and severity).
- ✓ Specifically targeted national or EU public health programmes that require monitoring and evaluation.
- ✓ Public health value other than first four criteria.

ECDC is transitioning into a new single platform (EpiPulse) that will integrate indicator-based surveillance, event-based surveillance, and molecular surveillance. EpiPulse will integrate new data sources, such as electronic health records, wastewater surveillance, health determinants, laboratory information management systems, social media, and web scraping. The surveillance based on electronic health records is being piloted on severe acute respiratory infection (SARI).

Pandemic and outbreak preparedness will be strengthened through mandatory event-based surveillance, joint sentinel surveillance of respiratory viral infections, weekly reporting of aggregate lab-confirmed cases of outbreak-prone diseases and automated signal detection, defining minimum pandemic data, and strengthening whole genome sequencing.

Disease-(group-)specific surveillance standards include:

- ✓ Surveillance objectives;
- ✓ System design;
- ✓ Frequency of reporting;
- ✓ Metadata;
- ✓ Data quality;

- ✓ Outputs.

They will be agreed with the different networks and published on the ECDC web portal. ECDC will monitor the compliance of the EU Member States.

A significant number of COVID-19 outputs by ECDC have been developed over the past few years. ECDC is planning new outputs beyond COVID-19, such as annual epidemiological reports (with automated content integrated in web portal, state-of-the-art online navigation, downloadable in different formats), indicator-based surveillance data explorer (INDEX), events/threats dashboard, and open data.

ECDC is building its expertise capacity and procuring data managers, data scientists, geographic information system (GIS), Qlik, R developers, molecular biologists, and bioinformaticians to enable support to the Member States.

The EU has invested EUR 77 million through 24 national projects in supporting programmes to develop/enhance national WGS and RT-PCR infrastructure. It will include capacity-building through bioinformatics training, twinning and WGS and RT-PCR standardisation. The annual EU4Health programme for 2023 earmarks EUR 97.6 million to strengthen national surveillance systems in the EU/EEA countries and associated non-EU partners.

Capacity building in the Western Balkans and Türkiye is explicitly mentioned in the ECDC strategy and the long-term surveillance framework, but it is not very specific. ECDC proposed that technical country visits are conducted on a short-term basis, so that ECDC better understands the progress made since the system assessments and is able to provide tailored advice and technical assistance. The mid-term proposal will be to expand the national reporting to TESSy to more diseases, and learn from data validation. ECDC will also be supportive of IPA beneficiaries to join EU/EEA surveillance initiatives.

After the presentation on surveillance activities, participating countries were invited to share their reflections on:

- country progress and plans to strengthen surveillance in the future;
- ongoing projects/initiatives in the countries;
- challenges, country needs and ECDC support in the future.

Albania

Challenges and country needs

- Running and further developing an electronic web-based platform for mandatory reporting of communicable diseases (thus far the Albanian platform includes, COVID-19, influenza, influenza-like illness (ILI), and syndromic surveillance);
- Preparing reports through the electronic web-based platform for mandatory reporting of communicable diseases;
- Capacity building in statistics;
- Laboratory capacity building (human resources and diagnostics).

ECDC support in the future

- Technical assistance in training staff in statistical analysis.

Montenegro

Country progress and plans to strengthen surveillance in the future

The country is in the final phase of setting up the biosafety level (BSL)-2 microbiological laboratory for the detection of BSL-3 and 4 levels of pathogens (development of SOPs and construction are in the pipeline). Setting up the Public Health Emergency Operational Centre for the detection and surveillance of infectious diseases and the Clinic for Infectious Diseases (a system of treatment and isolation) will soon be completed. Building a facility for national quarantine is still needed. However, there are ongoing discussions with the Montenegrin Army to find the most cost-effective solution.

The ongoing ECDC project for strengthening SARI surveillance in Montenegro implemented by Epiconcept is appreciated.

Country needs and ECDC support in the future

- Training of epidemiologists in field epidemiology;
- Strengthening capacity of the centre for emergency situations in the future;
- Training/workshops to support the implementation of International Health Regulations (IHR);
- Strengthening cross-border collaborations;
- Development of software for SARI for all hospitals, country visits by ECDC/Epiconcept team to support the country team for strengthening SARI surveillance;
- EpiPulse training or workshop, possibly for the entire Western Balkans region.

Serbia

Country progress and plans to strengthen surveillance in the future

Since 1 January 2022, an information system, 'Public Health Service' – developed and managed by the Institute of Public Health (IPH) of Serbia – has been operational. This is used for the standardised, electronic reporting of infectious diseases and healthcare-associated infections (HAI), as well as outbreaks. Expert-methodological instructions were distributed to all health institutions and other healthcare providers through the network of 24 public health institutes. Electronic reporting of the results of microbiological testing through the 'Public Health Service' has not been fully implemented yet; individual reports are submitted in writing on the prescribed form.

Ongoing projects/initiatives in the country

As part of the ongoing ECDC-IPA6 project, Serbia is a beneficiary of the ECDC Action with the Western Balkans on: i) preparatory measures for participation in ECDC; ii) improvement of One- Health responses to AMR; and iii) enhancing surveillance of laboratory-confirmed severe acute respiratory infections (SARI).

Study on HAI prevalence based on ECDC methodology is an ongoing activity.

Integrated SARI surveillance (joint surveillance on respiratory viral infections among SARI cases) in selected healthcare institutions is implemented within the ongoing ECDC project with Epiconcept.

IPH of Serbia is the Mediterranean and Black Sea Programme for Intervention Epidemiology Training (MediPIET) site and currently has two fellows in cohorts 4 and 5.

The two-year Twinning project, 'Strengthening the capacity of Serbia's health sector for communicable disease surveillance' (funded under IPA) is expected to start in 2023

The **overall objective** is to contribute to the strengthening of the institutional capacities and the legislative framework for fulfilling the requirements of EU membership in the area of public health, for effective participation in the EU communicable disease surveillance network, and reduction of the risks of serious cross-border health threats.

The **specific objective** is to improve the system of communicable disease surveillance and outbreak investigations, by strengthening and harmonising the laboratory diagnostics (including molecular methods) of the network of the institutes of public health (IPH) and national reference laboratories (NRL). Moreover, the national surveillance system will be supported through a supply contract by the procurement of upgraded equipment for microbiology diagnostics and confirmation, as well as procurement of the adequate software and interlinking of the software with microbiological laboratories and all relevant entities.

The 'Serbia, United Nations Development Programme (UNDP) and WHO Action Enabling a More Responsive Healthcare System' aimed to contribute to the development of effective, efficient, and sustainable organisational structures for preparedness and response to major public health threats at all levels of healthcare. The **overall objective** of the Action is to enhance the resilience, responsiveness, and capacity for emergency management of serious national public health threats. The **specific objective** is to improve Serbia's healthcare system capacities for response to emergencies, in line with EU and international standards.

The Action is also important in achieving the results envisaged by the corresponding Action Plan for 2018–2026 of the Public Health Strategy.

Primary beneficiary of the Action: The Serbian Ministry of Health; other beneficiaries of the Action: Institute of Public Health of Serbia (IPH), Office for Information Technologies and eGovernment (ITE) of Serbia, Prime Minister's Office (PMO) of Serbia, Republic Geodetic Authority (RGA), and network of institutes for public health, primary healthcare centres, local communities, administrations, and civil society organisations.

Serbia The purpose of the **Food- and Waterborne Diseases Antimicrobial Resistance - Reference Laboratory Capacity (FWD AMR-RefLabCap) project** is to strengthen coordination, support, and capacity building in national microbiology reference laboratory functions for the testing and surveillance of AMR in *Salmonella* and *Campylobacter* in human samples.

The Statens Serum Institute (SSI) and the Technical University of Denmark (DTU) have been contracted for the four-year activity that was initiated on 21 December 2020. The project's focus is on AMR in two of the most important food-borne pathogens, *Salmonella* and *Campylobacter*. The laboratories that participate in the FWD AMR-RefLabCap project will be involved in several activities in the period 2021–24 related to the surveillance of AMR in human *Salmonella* and *Campylobacter*, including:

- Networking to exchange information and good practice between laboratories on the activities of the core national reference laboratory (NRL), including participation in network meetings and giving feedback to proposed activities, protocols, guidelines, etc.;
- Work on development and implementation of minimum and optimal requirements in the national reference laboratory functions;
- Contribute to a survey mapping the NRL capacities for phenotypic AST, genotypic AMR prediction and strain typing methods in relation to *Salmonella* and *Campylobacter*;
- Participate in training and capacity building activities to improve technical and analytical skills at the national level, including hands-on training courses;
- If identified as a 'priority country', offer tailored technical and operational support to the country;
- Participate in EQA schemes on genotypic AMR prediction;
- Participate in multidisciplinary training for public health microbiologists and epidemiologists on topics related to AMR surveillance of human *Salmonella* and *Campylobacter* infections, including integration of WGS to national AMR surveillance and outbreak investigations;
- Mapping and evaluation of regional and local laboratories capacities for the detection and characterisation of *Salmonella* and *Campylobacter in* the country;
- Planning of capacity-building activities at regional and local level in the country;
- Establish and coordinate a national (sentinel) network of regional and local laboratories to support AMR monitoring in human *Salmonella* and *Campylobacter* infections.

Country needs and ECDC support in the future

- Collaboration, partnership, and networking with the national authorities for surveillance (national IPH) in EU Member States in order to exchange and share best practices and build capacities, preferably through on-site exchanges (study visits, network meetings, etc.).
- To expand the list of selected infectious diseases which are reportable through TESSy in the near future, and to provide trainings for epidemiologists and IT staff at the national level to be able to prepare data for reporting to ECDC, especially case-based data set which is very demanding.
- Support in analysing surveillance data at the national level and preparation of relevant information for key stakeholders in the best/ most effective way.
- To explore possibilities for support (financial and other) to monitor infectious agents of interest in waste waters and other environmental samples to be able to detect agents which could pose potential public health threats of concern (ALERT system).
- To explore possibilities of participation in some ECDC projects to strengthen capacities at national level.

North Macedonia

Country progress/achievements in relation to communicable disease surveillance

- List of 64 communicable diseases and 56 microbiology-confirmed infectious disease agents for mandatory reporting; notification of outbreaks and other public health threats;
- Development of a system, Alert 2.0, for syndromic surveillance. The Alert 2.0 is a fully digital, integrated real-time system (currently in piloting phase, legal basis in pipeline) for the early detection of clusters and outbreaks of communicable diseases using ICD-10 codes from the electronic health records in the country. The real-time surveillance uses the National e-health system with nine defined groups of diseases.
- Sentinel SARI surveillance started in 2014 as sentinel ILI/ARI (year-long/aggregated) and SARI surveillance system during influenza season (case-based reporting with lab-tested cases on influenza). The system has been re-activated after COVID-19-related interruptions. As of 2021, with ECDC support, the sentinel SARI surveillance was re-established and strengthened; currently a new integrated COVID-19 and influenza surveillance system has been established and is operational.
- Active surveillance of poliomyelitis and a system for active surveillance of measles/rubella cases are part of the routine surveillance system and have been strengthened.
- Establishment and operationalisation of integrated epidemiology and laboratory electronic system for COVID-19 reporting and management of positive cases and contacts.
- Development of a public health emergency operations centre (PHEOC) on the national level for public health risk assessment and management.

Lessons learned after the COVID-19 pandemic:

- The need to build and strengthen the capacities for full and effective IHR implementation.
- The need to establish epidemic intelligence and a PHEOC, a centralised unit for the collection and analysis of information in real time, risk assessment and response advice to public health authorities.

- The need for a PHEOC network with coordination between a central EOC and regional EOC units.
- The need for public health advisory role for public health actors in the country.
- COVID-19 was a good example of e-reporting, as a completely digitalised surveillance system has been developed. This links laboratory and epidemiological notifications through the 'Moj Termin' electronic health system.

Ongoing projects/initiatives in the country

- Final phase of preparations for launching the electronic reporting of communicable diseases, according to the Law of Health Records (started on 1 January 2023).
- Reporting of communicable diseases and their final classification using case definitions (regulated by the national rulebook, harmonised with EU legislation) (started on 1 January 2023).
- Proposal of amendments to the Law for Public Health within the process of approval:
  - establishment and regulation of the management of public health emergencies and/or public health emergencies of international importance;
  - establishment of an Emergency Operations Centre for managing health crises at the national/regional level;
  - identification of the tasks of the national Institute for Public Health and the Centres for public health (in light of the changes mentioned and amendments to the law).

Plans to strengthen surveillance in the future

- Harmonisation of the national communicable diseases surveillance system legal framework with EU legislation.
- Adaptation of the list of communicable diseases/microbiology-confirmed infectious disease pathogens.
- Full implementation of EU case definitions.
- Strengthening the existing surveillance systems for SARI, measles/rubella, emerging and vector-borne diseases (epi-vet collaboration).
- Implementing *Legionella* surveillance, in accordance with multisectoral approach guidelines.
- Enhancing AMR surveillance as part of the One-Health approach (epi-vet collaboration).
- Full operationalisation of an emergency operation centre.
- Continuing regional/cross-border collaborations and networking (positive example with Albania).

Country needs and challenges

- Strengthen public health workforce capacities and trainings;
- Strengthening infrastructure (IT, lab, software/statistical);
- Ful digitalisation of communicable diseases surveillance system (through the existing electronic health system, 'Moj Termin');
- Integration of laboratory and epidemiology surveillance systems (integrated single electronic system);
- Linking human health surveillance with electronic veterinary surveillance systems (One-Health approach: prioritisation of diseases which are of common interest, including EVD surveillance);
- Field epidemiology programmes incorporated into continuous medical education (implement field epidemiology trainings trough IPH as the national training centre, and the MediPIET training site), cascade knowledge sharing (at regional, local level);
- Timely detection of outbreaks and threats (complete functioning of the central EOC and networking with EOC units at regional levels after their establishment);
- Restructuring the existing preventive programmes to be more result-driven;
- Ensuring sufficient financial resources.

ECDC support in the future

- Help in ensuring compatibility with EU-level requirements, practices, and legislation;
- Full integration into ECDC reporting applications, such as TESSy and other platforms;
- Buil a strong base of experts (epi, lab, environmental health) at national and local level for capacity-building through international trainings and cooperation, and ensuring a cascade of knowledge in the country;
- Offer trainings for experts in statistics and IT, aiming to strengthen surveillance with trained and capable personnel;
- Strengthening regional collaboration (cross-border) and networking, such as MediPIET, MediLabSecure.

Kosovo

Improvements/changes after EC/ECDC Assessment (2018)

- Action plan based on ECDC assessment recommendations;
- The current LAW No: 02/L-109 FOR PREVENTION AND FIGHTING AGAINST INFECTIOUS DISEASES;
- Draft Law on prevention and control of Communicable Diseases and Special Health Issues;
- An update of the list of communicable diseases, special health issues, case definitions based on EU legislation;
- A PHEOC was established on the premises of IPH right before the pandemic, it is in the process of being operational (WHO support, development plan, procedures, SOP, trainings);
- Develop digitalised surveillance system (24/7), initial phase;
- Capacity-building on data management and analysis (WHO, MediPIET, Epiconcept, SECID-CDC);

- Joint External Evaluation via WHO/Europe process, mid-November 2022.

Ongoing projects: SARI Vaccine Effectiveness – WHO, SARI surveillance – ECDC/Epiconcept, BoCO-19-RKI, WGS-ECDC.

ECDC support in the future

- Technical assistance for capacity-building (analytic epidemiology);
- Training, workshops;
- Networking;
- Joint research projects.

Bosnia and Herzegovina[2]

In the **Federation of Bosnia and Herzegovina**, progress has been made in strengthening the laboratory's capacity for surveillance of respiratory pathogens (integrated surveillance), as well as diseases with rashes as symptoms (measles and rubella). These can be a good model for monitoring other infectious diseases.

In the Federation of Bosnia and Herzegovina, priorities in the coming period include:

- Development of an Integrated Electronic Reporting System (using models developed for the surveillance of COVID-19);
- Improving the capacity of microbiological laboratories;
- Integration of epidemiological and microbiological functions in surveillance;
- Continuous training of epidemiologists and other public health staff;
- Improvement of established SARI surveillance and full integration of surveillance of COVID-19;
- Further improvement of the legislation concerning the surveillance and control of infectious diseases;
- Further adaptation to European surveillance standards;
- Improving the quality of data and analysis to better understand and predict the epidemiological trends of infectious diseases;
- Strengthening the synergy between indicator-based and event-based surveillance;
- Better coordination between other laboratories and the reference laboratory at the Clinical Centre of the University of Sarajevo, in terms of sending samples for confirmation which requires financial support.

In the Republic of Srpska, priorities in the coming period include:

Surveillance of vector-borne diseases and surveillance of disease-carrying vectors is one of the areas that needs further development. In this regard, the priorities identified by the Republic of Srpska are as follows:

- Improving surveillance of notifiable vector-borne diseases, as well as detection and responses to epidemiology.
- Raising awareness of the frequency of vector-borne diseases and differential-diagnostic significance.
- Ensuring the participation of epidemiologists and microbiologists from the Republic of Srpska at the annual ECDC meetings, so that the information and knowledge gained at the meetings can be adequately applied in practice.
- Improvement of vector control (mosquitoes and ticks) and analysis of contamination of vectors with pathogens for importance of disease transmission.
- Mapping of vectors and disease cases.
- Improvement of laboratory capacities for the detection of the causes of vector-borne infectious diseases.
- Involvement of the Republic of Srpska in all regional and international activities in the field of human and veterinary medicine.

From all the above, it follows that it is necessary to constantly improve the surveillance of all other groups of diseases, which implies the improvement of case detection in accordance with case definitions, early diagnosis, and anti-epidemic measures. This indicates that it is necessary to strengthen human capacities as well as laboratory capacities, the skills of professionals in this field, as well as the strict application of all legal acts and by-laws.

[2] **Note on the responsibilities in field of health in Bosnia and Herzegovina.**
The State of Bosnia and Herzegovina comprises two entities: the Federation of Bosnia and Herzegovina and the Republic of Srpska. The Brčko District of Bosnia and Herzegovina is a self-governing administrative unit held in condominium by both the entities. Public health is the responsibility of the entities as well as the Brčko District. The following are the bodies governing health: the Ministry of Health of the Federation of Bosnia and Herzegovina; the Ministry of Health and Social Welfare of the Republic of Srpska; the Department of Health and Other Services of Brčko District of Bosnia and Herzegovina.
According to Article 15 of the Law on Ministries and Other Bodies of Administration of Bosnia and Herzegovina, the Ministry of Civil Affairs is responsible for carrying out tasks and duties which are within the competence of Bosnia and Herzegovina and relate to defining basic principles, coordinating activities and harmonising plans of the entity authorities and defining a strategy at the international level, among others, in the field of health.

Türkiye

Country progress in relation to communicable disease surveillance

There has been a considerable effort in Türkiye to improve the reliability of laboratory-based data in the surveillance of infectious diseases: in 2004, laboratories were included in the surveillance system, and in 2014, National Microbiology Standards (NMS) were published for the diagnosis of notifiable diseases with the aim of standardising diagnoses in all laboratories across the country. The list of notifiable communicable disease agents and conditions as well as case definitions have been updated with the legislation. In addition, a common software programme for reporting has been developed and put into practice.

A guide for combating communicable diseases has been prepared and the work to be carried out in the field has been standardised. Surveillance units were established in in-patient treatment institutions and persons responsible for them were identified. The Türkiye Field Epidemiology Certified Training Programme is an ongoing initiative in order to create qualified human resources capacity. For this purpose, 10 applied epidemiology trainings were given to the personnel in various levels of the healthcare field throughout Türkiye. These trainings will continue. In the provincial health directorates throughout the country, healthcare personnel working in the field of communicable diseases have also been given trainer-trainings in combating infectious diseases and early warning . Thereafter, these trainers train healthcare staff working at all levels in the provinces.

Efforts are continuing to incorporate inter-sectoral cooperation mechanisms and develop joint protocols for the National and Provincial Early Warning and Response System, as well as to define coordination mechanisms through protocols.

Ongoing projects/-initiatives

There are three completed national IPA projects in this field. They started in 2005 and ended in 2014. They were made in three phases that complement each other, i.e. 'Epidemiological Surveillance and Control of Infectious Diseases in Türkiye' projects.

The 'Health Security in Türkiye Project' is currently being carried out. The overall objective of the project is to strengthen health security in Türkiye through preparedness and response to all pandemic threats, in line with international standards. Within the scope of the project, two groups of activities are being carried out. The first is to assess existing laboratory capacity for the objective of establishing a laboratory response network in the Early Warning Response System. The second is to develop training programmes for laboratory staff in line with the International Health Regulations core capacity objectives.

In the field of **sexually transmitted diseases data sharing**, ECDC and the WHO Regional Office for Europe have been conducting joint surveillance and reporting on HIV/AIDS since January 2008. Türkiye, like the 53 other countries in the WHO European Region, shares information in this context.

Influenza-Like Illness (ILI) surveillance has been carried out in Türkiye since 2005. Since 2015, Severe Acute Respiratory Infections (SARI) surveillance has been conducted. Samples taken within the scope of SARI surveillance are analysed for influenza and other respiratory viruses. In order to monitor the national influenza surveillance process and collect data in an electronic environment, the Influenza Surveillance Module was developed within the web-based Public Health Management System (HSYS). As a result of the data collected, the 'Weekly Influenza Surveillance Report' is regularly published on the website of the Directorate of Public Health. In the 2020–2021 flu season, COVID-19 was also integrated into that system and the web-based Influenza Surveillance Module has now been updated. SARS-CoV-2 causative agents have also started to be tested in respiratory tract samples. In addition, international notification of surveillance data has also been initiated. Epidemiological and virologic data are reported to TESSy on a weekly basis.

Since 2005, the Legionnaires' Disease Control Programme has been carried out in order to control the disease, which is among the notifiable infectious diseases in Türkiye. Routine environmental surveillance studies are carried out in nearly 1 500 hospitals. Cleaning and disinfection procedures are carried out when necessary. Thus, efforts are made to prevent hospital-acquired Legionnaires' disease.

Surveillance of Healthcare Associated Infections (HAIs) in Türkiye is carried out according to the determined diagnostic criteria. However, surveillance data related to these are not entered into the ECDC network.

West Nile and Zika viruses data are entered into TESSy by the national focal point. In May, the West Nile Virus Infection Case Management Guide was published and trainings were held in the provinces. In November, the One Health Symposium was held with wide participation of relevant stakeholders. Activities started within the framework of Türkiye Zoonotic Diseases Action Plan: Vector Workshop has been organised and it is planned to prepare a vector risk map of Türkiye.

Country needs and expectations from ECDC

- Simplification of the language of ECDC reports;
- Systematic implementation of external quality control programmes;

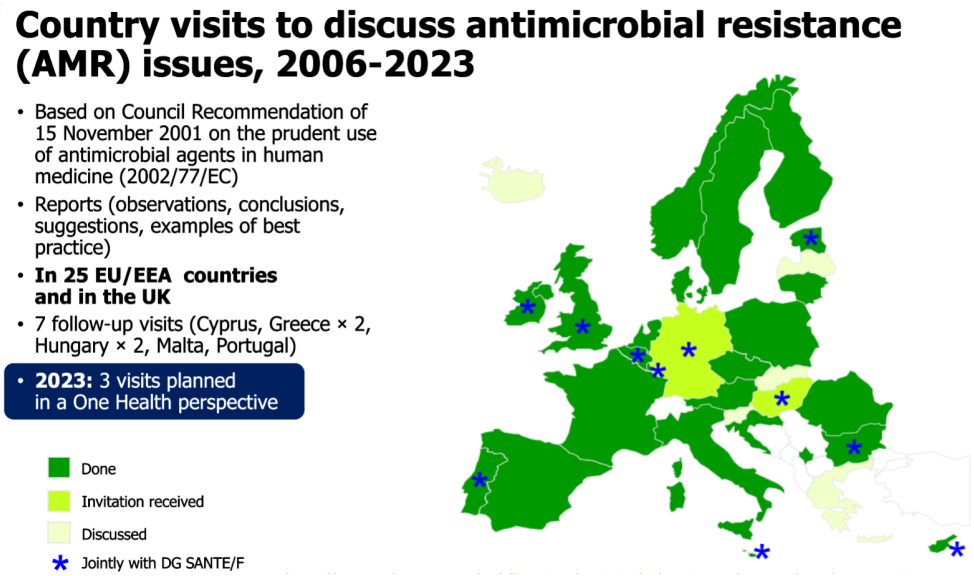
- More trainings with regard to communicable diseases;
- There have been issues with access to EPIS-ELDSNet and Türkiye cannot enter data into the platform; access to EpiPulse system for participation of Türkiye is pending – there is need to accelerate the process of granting access to EpiPulse domains.

2.5 ECDC-IPA6 project: Advancing One-Health approaches against AMR

The objectives of the Work Stream 2 (WS2) of the ECDC-IPA6 project are as follows:

With the support of the EU under the Instrument of Pre-accession Assistance, ECDC has published a Call for Tender OJ/2022/DIR/23891 - Country Support to Advance One-Health Responses against Antimicrobial Resistance in Western Balkans. The scope of this Call for Tender is to contribute to the advancement of 'One-Health' approach against 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) raising awareness initiatives. The contractor has been selected. The Framework Contract with external consultancy services will be concluded by the end of 2022 with expected kick-off on country visits, gap analyses, roadmaps on AMR in Q1 2023.

Based in the Terms of reference (ToR), national authorities have been invited to nominate Observers to the ECDC NFP for AMR and CPO for the European Antimicrobial Resistance Genes Surveillance Network (EURGen-Net) in Western Balkans and Türkiye. The nomianted Observer NFP for AMR will also server as a key contact for the implementation of activities in Western Balkans on One Health against AMR.



https://www.ecdc.europa.eu/en/all-topics-z/antimicrobial-resistance/preparedness/country-visits-reports

https://www.ecdc.europa.eu/en/publications-data/directory-guidance-prevention-and-control/antimicrobial-resistance-strategies

The activities of WS2 are organised in the focus areas for the country support:

1) Gap analysis and IPA beneficiary country roadmaps on One Health against AMR;
2) Support to the development of electronic surveillance of AMR;
3) Antibiotic awareness raising and securing political commitment.

Indicative timeline of WS2 activities with external contractor:

Q4 2022	Expected signature of a Framework contract with external consultancy
Q1 – Q2 2023	Gap analysis and preparations for One-Health AMR country visits
Q3 2023 – Q3 2024	ECDC/EFSA One-Health country visits on AMR in six Western Balkan countries
Q3 2023 – Q4 2024 (and beyond)	Country roadmaps on AMR in human health, animal health, HAI, including mechanism to follow-up on progress and monitor implementation of recommendations after One-Health country visits on AMR in Western Balkans
Q3 2023 – Q3 2024	Identify needs for awareness-raising campaigns on prudent use of antibiotics and prevention and control of AMR and materials to be translated
Q2 – Q4 2024 (and beyond)	Develop a technical guidance document for electronic surveillance of AMR

In-country developments on AMR and One-Health approaches

Countries have been invited to share their feedback on the latest developments in this area.

Albania

In Albania, there is no surveillance system for AMR. For antimicrobial consumption, the country's national drug authority carries out some monitoring of antibiotic use, but it is not a proper surveillance system. There is a lack of laboratory capacity in the country. A working group has been set up under the direction of the Ministry of Public Health for drafting a plan in a multi-institutional One-Health approach.

Montenegro

In April 2022, the Government of Montenegro adopted the 'Programme for Control of Bacterial Resistance to Antibiotics' with an Action Plan 2022–2024. The plan was prepared by the National Interdisciplinary Commission for the Control of Antibiotic Resistance (NIKRA), which began its work in the new membership in March 2021. The program has four operational objectives:

- Improved monitoring of consumption of antimicrobial drugs and resistance of bacteria to antibiotics;
- Optimised use of antimicrobial drugs in human medicine;
- Optimised application of antimicrobial drugs in veterinary medicine;
- Reduced pollution of the environment with antibiotics.

The start and end dates, activity holders and performance indicators are determined for each activity that will be carried out to achieve certain goals. Education for veterinarians, owners and keepers of animals on the rational use of antibiotics in veterinary medicine is done from June–September 2022. A basic study on the use of antimicrobial drugs in the veterinary sector was conducted from June to September 2022. Introducing antibiotic resistance monitoring in veterinary medicine is in the pipeline. This implies harmonisation of the legislation with the new Commission Implementing Decision (EU) 2020/1729 of 17 November 2020 on the monitoring and reporting of antimicrobial resistance in zoonotic and commensal bacteria and the preparation of the monitoring plan in accordance with the decision.

There is an ongoing project with the Robert Koch Institute (launched mid-July 2022) that aims to improve the monitoring of antibiotic consumption and surveillance of antimicrobial resistance in human health and hospital-acquired infections.

Kosovo

	Achievements	Challenges	Support by ECDC
GOVERNANCE	• Two national action plans already approved by the Ministry of Health with established AMR national multisectoral structures: Intersectoral Group on Antimicrobial Resistance Control and National Reference Laboratory for AMR at the National Institute of Public Health. • In September 2019, Kosovo adopted a new Essential Medicine List, with enrolment of the WHO antibiotic classification AWaRe (Access, Watch and Reserve), which supports stewardship initiatives. • AMR and HAIs have been introduced as special article in the current Draft Law on Prevention and Control of Infectious Disease by the Ministry of Health. • Action Plan addressing 100 recommendations from ECDC Technical assessment Report – including AMR and HAIs within disease programmes.	• Budget constraints • 'Over-the-counter' sale of antimicrobials from pharmacies and pressure from the pharmaceutical industry. The Administrative Instruction for the Distribution of Antibiotics and Psychotropic Drugs in Kosovo exists since 2010, but it is not fully implemented. • COVID-19 accelerated the enormous misuse of antibiotics at all levels of healthcare, even in asymptomatic and mild cases of disease. The pandemic prevented the fulfilment of many activities of the second AMR action plan.	• Code of conduct for the supervision of pharmaceutical companies in the promotional activities of drugs[3]. • Collaboration within ECDC on AMR and HAIs.
AWARENESS, EDUCATION, AND TRAINING OF THE POPULATION AND HEALTHCARE WORKERS	• Introduction of the e-Bug programme in Albanian (https://www.e-bug.eu/index.html#Kosovo) and other awareness materials for AMR https://www.youtube.com/watch?v=RYo48dlQAE4 • In the field of undergraduate studies, the Faculty of Medicine in Pristina has agreed to include AMR as elective subjects for final-year students.	• Insufficient knowledge of the population about the prudent use of antimicrobials.	• Celebrating the World Antimicrobial Awareness Week. • Provide standardised training packages for healthcare workers in hospitals and primary care facilities on antimicrobial stewardship.
SURVEILLANCE	• Surveillance data were collected for antibiotic consumption at wholesale, hospital and community levels since 2011 in collaboration with WHO. • Clinical microbiology laboratory AMR data within the WHO/Europe Central Asian and European Surveillance of Antimicrobial Resistance project (CAESAR) collected since 2014 and the WHO Global antimicrobial resistance and use surveillance system (GLASS) project, since 2021. Clinical microbiology laboratories in Kosovo took part in the international external quality control programs (the United Kingdom National External Quality Assessment Service - UK NEQAS and University of Antwerp). • All laboratories in Kosovo have been using EUCAST methods as the standard for performing and interpreting antibiotic susceptibility testing since 2013. • Largest governmental investment in the microbiology infrastructure in the last 20 years (Next Generation Sequencing, syndromic multiplex PCR, MALDI-TOF, automated blood culture systems, etc.).	• No systematic monitoring of antibiotic consumption has been implemented in the veterinary sector. • Underutilisation of medical microbiological diagnostics in primary care (rapid strep tests) and hospitals (blood culture systems).	• Training of teams in molecular methods (NGS), as presented by ECDC. • Digitalisation of laboratory surveillance.

[3] *Note from ECDC*: ECDC does not have a mandate for this topic. Kosovo should contact the European Medicines Agency and/or the European Commission.

	Achievements	Challenges	Support by ECDC
	•	•	•
PRUDENT USE OF ANTIBIOTICS IN HUMAN AND VETERINARY MEDICINE	• Wholesale data on antibiotic consumption showed that Kosovo had a significant decrease in total antibiotic consumption in a five-year period by almost 25% (from 26.3 to 20.1 DDD per 1 000 inhabitants per day). • An antimicrobial stewardship team has recently been established at the only tertiary care facility in Kosovo (University Clinical Centre of Kosovo, 200 beds). • Final stage of preparation of the guidance for antibiotic use in primary healthcare. • National Guideline for Covid Management, with chapter on antibiotics (https://msh.rks-gov.net/wp-content/uploads/2021/08/UK-Menaxhimi-dhe-trajtimi-i-COVID-19-1.pdf	• Very high rate of prescription of third-generation cephalosporins in primary care. • Lack of officially approved antibiotic guidelines in hospitals. • Improper antibiotic prophylaxis before surgical interventions.	• Strengthen the Antimicrobial Stewardship Programme in hospitals. • Development of standard operating procedures (SOPs) for prophylactic use of antibiotics before surgical interventions. • Prudent use of antimicrobials in the veterinary sector. • Prudent use of antimicrobials in long-term care facilities (nursing homes). • Prohibit antibiotic use as growth promoter for animals.
INFECTION PREVENTION AND CONTROL	• Ongoing ECDC point prevalence survey (PPS) of HAIs and antimicrobial use. • Infection prevention programme. • Legal infrastructure - Administrative Order for HAI since 2011. • MoH – Standard Operation Protocols for IPC. • Action plan within ECDC recommendation after country visit in 2018.		
RESEARCH AND INTERNATIONAL COOPERATION	• Several research activities have been successfully implemented with various partners (European Commission, WHO, ECDC, Robert Koch Institute, etc.). • Participation in the Global surveillance of antimicrobial resistance from sewage in capital cities of Europe. • Participation in European survey, which includes 50 hospitals in Europe (Kosovo had very high rate of healthcare-associated sepsis with carbapenem-resistant *Acinetobacter baumannii* among new-borns).	• Limited financial support for research activities. • Small number of grant applications.	• Molecular characterisation of carbapenem-resistant Enterobacterales. • Research on the presence of antibiotics in food and the environment[4]. • Organising international conference on AMR.

North Macedonia

- **National multisectoral commission of AMR** was established as an expert advisory body under the Ministry of Health in 2010 with the aim to draft the first AMR Strategy and implement the activities according to an Action plan. It was composed by experts of different kinds of expertise and was very active before the COVID-19 pandemic.
- **National strategy for containment of AMR 2019–2023** was adopted by the government in 2019 together with an Action Plan for AMR control for the same duration.
- From 2013 onwards, in collaboration with WHO, the country started to participate in the CAESAR system for AMR monitoring (which is compatible with EARS-Net), as a piloting phase. In 2019, the Minister of Health assembled a CAESAR Expert's Team for AMR control system implementation, as well as nominated sentinel hospitals for reporting, nominated laboratories for sending resistant isolates, and a responsible person at the Institute of Public Health (IPH) who will collect the reports, enter data in the WHONET software, and share results.
- To streamline the work of microbiological laboratories in North Macedonia with the work of laboratories in Europe, the methodology of the European Committee for Antimicrobial Susceptibility Testing (EUCAST) has been implemented (2013–2016).
- North Macedonia joined the global point prevalence study for antimicrobial consumption and resistance monitoring (Global-PPS Programme) in 2015, as well as the ECDC point prevalence survey in long-term care facilities in 2016.
- Within the framework of the two-year cooperation agreement between the Ministry of Health and the WHO, which included high-level policy institutions and national experts, and was supported by technical experts of the WHO Regional Office for Europe, a working group of representatives from various medical disciplines was composed. This group developed evidence-based policy options to be considered in dealing with the problem of empirical antibiotic prescribing in in-patient settings. This policy document was published in 2020 under the auspices of the WHO European Network for Evidence-Based Policy (Evidence brief for policy, EVIPNet Europe). It promoted the appropriate use of antibiotics in hospitals to contain antibiotic resistance in North Macedonia.
- Every year in November, on the occasion of the World Antimicrobial Awareness Week, various events/activities are organised, with different institutions involved each time, taking into consideration a multisectoral approach

[4] *Note from ECDC*: ECDC does not have a mandate for research or surveillance of antibiotic residues.

to the topic. This includes: Food and Veterinary Agency (AHV), Veterinary Faculty, Family doctors (primary level), specialists/clinicians of different medical specialties – secondary and tertiary level (surgeons, nephrologists, endocrinologists, pulmonologists, ORL specialists, ophthalmologists, etc.), microbiologists, epidemiologists, and pharmacists.

- Promotion of the education and training of health workers about AMR is very important, as well as educational activities related to the general population, including school children, students, parents of children in the nursery, and media with the aim to raise awareness for AMR and harm reduction (rational use of antibiotics).
- Every year, routinely, appropriate informational/educational materials are also prepared/translated and disseminated (leaflets, posters) to different audiences.
- Based on the law and by-laws regulating communicable diseases, every laboratory that has a positive isolate and has performed antimicrobial susceptibility testing must report the confirmed agent and its resistance to antibiotics. The Epidemiology Department at the IPH collects all the information, enters it into a database, analyses it, and shares information for appropriate action in the field.
- Nominated representatives from the IPH and other health institutions, experts/observers as of now, routinely participate as observers in ECDC network meetings and events on this topic.

Specific objectives within the seven strategic objectives According *Action Plan for AMR control* in the period 2019– 2023:

- Continuous functioning of the Multisectoral Commission for the AMR Control;
- Monitoring the resistance of microorganisms to antimicrobial agents (AMR surveillance);
- Strengthening of laboratory capacities;
- Antibiotic consumption monitoring;
- Infection prevention and control;
- Regulatory strengthening/updating the use of antimicrobial agents;
- Promotion of the rational use of antimicrobials in human medicine;
- Promotion of the rational use of antimicrobials in veterinary medicine;
- Promotion of coordination, communication and information;
- Advancement of knowledge and continuous education;
- Introducing a system for the removal/disposal of unused antimicrobials for veterinary use;
- Professional supervision with education;
- Strengthening/updating cooperation;
- Prepared economic support for sustainable investment in new medicines, diagnostic tools, vaccines, and other interventions.

Serbia

Country progress and future plans to control AMR:

- Formalised multisectoral coordination mechanism with technical working groups established with clear terms of reference, regular meetings, and funding for working group(s) with clearly defined activities and reporting/accountability arrangements. The established body is of a multisectoral nature and covers human health, terrestrial animal health, aquatic animal health, plant health, food production, food safety, and environment.
- National AMR action plan approved by the government and is being implemented.
- Feedback reporting continued according to the goals set in the action plan, with the aim of redefining them and adapting to the current situation.
- Adequate workforce is still lacking as well as training in most sectors (except human health).
- Despite significant progress in the exchange of information between sectors, there are significant areas for improvement. Information flow is mainly between the animal health and human health sectors.
- Efforts are being made to further include other sectors.
- Significant work on raising awareness about AMR has been done in the area of human and animal health, while some activities have been implemented but need to be significantly improved in the area of plant production, food production and the environment.

Ongoing projects/initiatives in the countries:

During the COVID-19 pandemic, the majority of the workforce from the human health sector, and some from the animal health sector (laboratory capacity and personnel) were engaged in the control of the pandemic. Most of the planned activities had stopped. But educational workshops, online education and lectures were still held, as well as raising awareness about the need for rational use of antibiotics. Regular monitoring and reporting of AMR for

significant pathogens continued. Work continued on legislation in the area of controlling the presence of antibiotics and AMR in pathogens from the environment.

Country needs and ECDC future support:

- ✓ Collaboration, partnership and networking with institutions and national authorities in the field of AMR control and One-Health approach in EU Member States in order to exchange and share best practices and build capacities, preferably an on-site basis (study visits, network meetings, etc.)
- ✓ Expand the network of fully and partially trained professionals in the field of AMR control. With an emphasis on multisectoral cooperation and examples of good practice in EU Member States, which are applicable to the conditions of Serbia. Future collaboration with ECDC and EU Member States in these activities is needed.
- ✓ Support in analysing AMR and antimicrobial consumption data at national level and preparation of relevant information for key stakeholders in the best, most effective way.
- ✓ Explore possibility for support (financial and other) to monitor infectious agents of interest and presence of antimicrobials in wastewater and other environmental samples in order to recognise and quantify the problem, and be able to detect the antimicrobials which could pose potential threats of concern to public health[5].
- ✓ Explore the possibility to take part in some ECDC projects in order to strength capacities at all levels.

Bosnia and Herzegovina

Country progress and future plans to control AMR:

The representatives of Bosnia and Herzegovina (the Ministry of Civil Affairs of Bosnia and Herzegovina, the Agency for Medicinal Products and Medical Devices of Bosnia and Herzegovina, and the Public Health Institute of the Republic of Srpska) were present at the first meeting, 'Strengthening the surveillance of antimicrobial resistance of infections and infections related to healthcare institutions, and networking of potential candidate countries for membership in the European Union', held in June 2012 in Dubrovnik, Croatia, organised by ECDC.

At this meeting, the situation in Bosnia and Herzegovina was presented for the first time regarding: the network of laboratories, legal regulations, the existence of an electronic system, reporting, and the identification of potential obstacles for establishment of the system and possible progress. The meeting was also attended by representatives of WHO/Europe, and it was established as the contact to start the CAESAR project. Bosnia and Herzegovina has been involved for the past 10 years in the CAESAR project, through participation in the external quality control (EQA) and reporting in the CAESAR network. The data are presented in the annual CAESAR report published by the WHO. Since 2015, with the support of the CAESAR network, a meeting and training on antimicrobial resistance (AMR) has been organised every year.

Since 2017, AMR data from Bosnia and Herzegovina are included in the WHO Global Antimicrobial Resistance and Use Surveillance System (GLASS) as well.

Monitoring antimicrobial consumption in the human sector is conducted by the Agency for Medicinal Products and Medical Devices of Bosnia and Herzegovina, which collects data on antimicrobial consumption as part of the AMC network led by the WHO. Data are on country level, and they are analysed according to ATC classification and expressed as DDD/1 000 inhabitants.

According to the questionnaire on self-assessment for antimicrobial resistance, the Public Health Institute of the Republic of Srpska conducted a survey among the laboratories of the Republic of Srpska. The results of this survey were presented in October 2013 at the meeting, which was attended by the representatives of the Ministry of Civil Affairs of Bosnia and Herzegovina, WHO/Europe, the Ministry of Agriculture, Forestry and Water Management and the Ministry of Health and Social Welfare in the Government of the Republic of Srpska, the Agency for Medicinal Products and Medical Devices of Bosnia and Herzegovina, and the representatives of laboratories.

The World Antimicrobial Awareness Week (from 18–24 November) has been observed in the Republic of Srpska for the past few years, with the support of WHO/Europe, through media campaigns, presentations of printed materials, education and workshops organised for different categories of health workers, university students and high school students. Also, campaigns about the rational use of antibiotics have been conducted throughout the Federation of Bosnia and Herzegovina. Different stakeholders were involved in the campaigns and the target group were healthcare professionals, public, media and government.

There is no One-Health strategy on AMR or One-Health action plan endorsed at the level of the Federation of Bosnia and Herzegovina. However, there is a good example of 'Strategy for Control of Antimicrobial Resistance in Sarajevo Canton for period 2017–2019'.

[5] *Note from ECDC*: ECDC does not have a mandate for research, monitoring or surveillance of antibiotic residues.

The AMR surveillance network in the Federation of Bosnia and Herzegovina includes six laboratories. They provide diagnostic support for three secondary care hospitals, one tertiary care hospital and two hospitals providing both secondary and tertiary care.

AMR surveillance in the Federation of Bosnia and Herzegovina covers about 75% of the population. Antimicrobial susceptibility in the tertiary care level is tested using automated systems. Gradient tests and disk diffusion are used as supplementary methods. If highly resistant microorganisms or exceptional phenotypes are found, strains are usually sent to a clinical microbiology laboratory at a university hospital in Sarajevo for confirmation. The methodology of antimicrobial susceptibility testing is standardised in the participating laboratories. The laboratories use the European Committee for Antimicrobial Susceptibility Testing (EUCAST) standards.

The Federation of Bosnia and Herzegovina has sufficient laboratory capacity for AMR surveillance. All microbiology laboratories can perform susceptibility testing. The microbiology laboratory for human sector is part of University Clinical Hospitals, Cantonal Hospitals, Public Health Institutes and Primary Health Care Centres.

The laboratory for animals is organised in Cantonal Veterinary Institute and Faculty of Veterinary Medicine, University of Sarajevo.

The microbiology laboratory for food is organised in human and veterinary sectors: Public Health Institute at the cantonal level and at the level of the Federation of Bosnia and Herzegovina, Veterinary Institute at the cantonal level, as well as in Faculty of Veterinary Medicine, University of Sarajevo.

Activities related to AMR in the Brčko District of Bosnia and Herzegovina are currently in development of an internal plan and strategy with the aim to collect and monitor activities in all microbiological laboratories in the territory of the Brčko District, which perform antibiogram testing to collect AMR data of tested human samples.

In the period from 2013 to 2019, representatives of Bosnia and Herzegovina (Public Health Institute of the Federation of Bosnia and Herzegovina and Public Health Institute of the Republic of Srpska) participated in meetings/workshops on the topic of antimicrobial resistance, organised by the WHO/Europe, ECDC and the South-Eastern Europe Health Network.

In February 2019, a representative of the Public Health Institute of the Republic of Srpska presented the available data for the Republic of Srpska at a workshop entitled 'Regional workshop on One Health approach against antimicrobial resistance in EU pre-accession countries', which was held in Belgrade, Republic of Serbia, organised by EFSA (European Food Safety Authority) and ECDC in the presence of representatives from WHO.

After all the above mentioned meetings, the establishment of a multidisciplinary team to monitor antimicrobial resistance was proposed in the Republic of Srpska.

Country needs and ECDC future support:

Federation of Bosnia and Herzegovina

- ✓ Appointment of an institution which will coordinate the AMR surveillance network (most often it is the Ministry of Health of the Federation of Bosnia and Herzegovina);
- ✓ Establishment of a team/committee for AMR monitoring (multidisciplinary team, which includes the veterinary sector);
- ✓ Development of a national action plan for AMR (AMR surveillance strategy);
- ✓ Provision of funds for the implementation of the AMR action plan;
- ✓ Appointment of the Reference Laboratory for AMR;
- ✓ Standardisation of all laboratories in the Federation of Bosnia and Herzegovina (currently six laboratories are standardised, which report according to the CAESAR network of the WHO and EARS-Net);
- ✓ Computerisation of all microbiological laboratories and preparation of periodic reports on AMR.

Republic of Srpska

- ✓ Support for conducting a point prevalence survey (PPS) in hospitals in the Republic of Srpska;
- ✓ Support for the development of programme documents in the field of antimicrobial resistance;
- ✓ Support for the establishment of an efficient system of monitoring antimicrobial resistance in the Republic of Srpska.

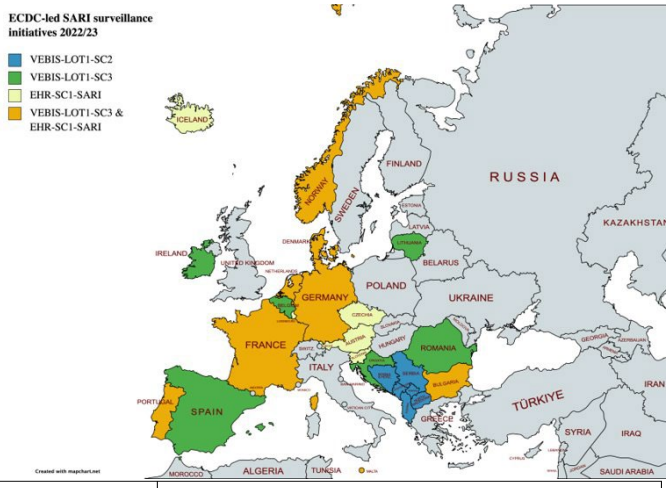
Türkiye

Unfortunately, Türkiye has high rates of both antibiotic consumption and AMR in Europe. Nonetheless, the topic is considered of great importance and efforts to tackle this issue continue. There are three separate national surveillance networks in the country: National AMR Surveillance, National Health Service-Associated Infections Surveillance Network, and National Antibiotic Consumption Surveillance Network. Rational use of medicines is a fundamental component in the fight against AMR and a substantial programme is being implemented in Türkiye.

A 'National Antimicrobial Resistance Prevention Strategic Action Plan' has been developed with a One-Health approach and ensuring inter-sectoral coordination. As regards international data sharing, the National AMR Surveillance Network is integrated with the Central Asia and Europe AMR Surveillance Network (CAESAR, coordinated by the WHO Regional Office for Europe) and in the Global AMR Surveillance System (GLASS, initiated by WHO).

2.6 ECDC-IPA6 project: Enhancing SARI surveillance to support the implementation of fit-for-purpose surveillance systems: state-of-play and future steps

ECDC technical support to national authorities is continued through Epiconcept for the implementation of surveillance activities, training and capacity building. This shall enhance the capacities in the countries to implement protocols, validate data, and contribute to the ECDC activities as per standards applicable to EU Member States. SARI surveillance support to the Western Balkans is planned as of April 2022 until March 2023.



	Participating sites	Status	Next steps
Albania	9	Collecting case-based data but submitting aggregated data to TESSy; Latest submission 2022w45	Improve reporting timeliness and data quality; Recoding and submitting case-based data to TESSy
Bosnia and Herzegovina	3	Collecting and submitting aggregated data to TESSy manually; Latest submission 2022w45	Improve reporting timeliness and data quality; Data quality checks and R scripts are being developed to submit data to TESSY using CSV file
Kosovo*	5	Collecting and submitting aggregated data to TESSy manually; Latest submission 2022w43	Improve reporting timeliness and data quality; Data quality checks and R scripts are being developed to submit data to TESSY using CSV file
Montenegro	3	Collecting and submitting aggregated data to TESSy manually; Latest submission 2022w44	Improve reporting timeliness and data quality; Data quality checks and R scripts are being developed to submit data to TESSY using CSV file
North Macedonia	6	Collecting and submitting aggregated data to TESSy manually; Latest submission 2022w45	Improve reporting timeliness and data quality; Start recoding and submitting case-based data to TESSy; Adding 2 new participating sites (hospitals)
Serbia	7	Collecting and submitting aggregated data to TESSy manually; Latest submission 2022w45	Improve reporting timeliness and data quality; Data quality checks and R scripts are being developed to submit data to TESSY using CSV file

ECDC also presented SARI surveillance within overarching integrated surveillance systems for respiratory viruses, with its overall objectives, sentinel and syndromic surveillance areas, following the publication of a joint guidance document (with WHO/Europe), 'Operational considerations for respiratory virus surveillance in Europe'.

3 Conclusions

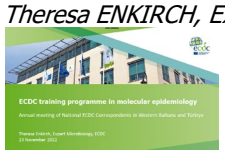
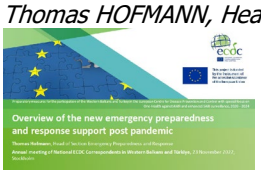
- The national authorities of Western Balkans and Türkiye have made significant progress in tackling the COVID-19 pandemic. There has been an acknowledgement of the need to further improve the advancement in other areas of communicable disease surveillance and control.
- Almost all IPA beneficiaries have established or are in the process of establishing the digitalised surveillance of notifiable diseases in line with national structures and legal frameworks. There would be a need for ECDC to support countries in ensuring compatibility of national systems with EU requirements and legislation.
- Supporting countries for full integration in disease networks and reporting of national data to EpiPulse CASES/TESSy and other platforms would be another priority for the countries. This shall be accompanied with necessary training activities and capacity-building events on multiple technical areas, including data preparation for reporting to ECDC, especially case-based data set, data analysis (analytic epidemiology), data visualisation, and production of automated outputs.
- ECDC could provide such trainings and workshops at regional levels for all countries that have similar capacity strengthening needs. In this way better networking, exchanging and sharing best practices would be enabled which is considered important for the countries.
- ECDC will further aim to include countries in the specific ECDC projects to strengthen their capacities at national level and encourage networking.
- For Legionnaires' disease, 2022 saw the realisation of the train-the-trainers workshop on *Legionella* prevention in touristic accommodations. With a continued commitment to prevent travel-associated Legionnaires' disease (TALD) and generally, the aim in 2023 will be to integrate further the countries into ECDC surveillance reporting activities.
- Interest of participating countries and feasibility of participation in Euro-GASP will be explored in 2023 when a new framework contract is in place.
- All representatives from the Western Balkans and Türkiye acknowledged the importance of ECDC support to SARI surveillance and expressed the need for further strengthening.
- The gap analysis, country visits, and the support to the development of national roadmaps on One Health against AMR are seen as an important area for the ECDC support to Western Balkans in 2023.
- The upcoming ECDC support to the development of electronic surveillance of AMR in the Western Balkans is seen as very timely opportunity. Technical guidance to IPA beneficiaries on a standard AMR surveillance tool to facilitate data extraction, standardisation, analysis and reporting will be an essential element to arrive at full digitalisation of laboratory data-sharing systems ensuring that IT infrastructure allows interconnectedness with epidemiological data and veterinary data for better information flow within and between sectors within each country, as well as cross-border exchanges.

Annex 1. Agenda

Annual meeting of National ECDC Correspondents in the Western Balkans and Türkiye

23 November 2022, ECDC, Stockholm

08:30 – 09:00	***Registration – ECDC Pasteur meeting room; Webex connection technical check***
Chair: Antonis LANARAS, Head of Section, European and International Cooperation Section	
09:00 – 09:20	**Welcome, opening and introduction to the meeting** ➢ *Antonis LANARAS, Head of Section, European and International Cooperation Section, DIR* ➢ *Hillen FRANCKE, Head of Sector, Civil Society, Social Inclusion and Human Capital Development, DG NEAR*
09:20 – 09:50	**Strategic developments – Reinforced ECDC mandate and strengthened international role: implications on work with Western Balkans and Türkiye** *Antonis LANARAS, Head of Section, European and International Cooperation Section, DIR* 
09:50 – 10:30	**EU enlargement policy, its priorities on health security, and related financial programming** *Andrew WILLIAMS, Policy officer, Western Balkans, DG NEAR – online*  **EU financial instruments and programmes available for national public health authorities in Western Balkans and Türkiye** *Marta BRITES, Programme Manager, IPA planning, reporting, and coordination Western Balkans, DG NEAR – online*  **Q&A**
10:30 – 11:00	**Coffee / tea break**
11:00 – 12:30	**ECDC-IPA6 project: Preparatory measures for participation in ECDC** • **Progress since last year and upcoming activities – an overview** (15'), *Agne BAJORINIENE, European and International Cooperation Section, DIR*  • **Integration of Western Balkans and Türkiye in ECDC data sharing systems, procedures, and outputs: progress and future outlook:** ✓ *Surveillance activities, Maria TSERONI, Project Scientific Officer Surveillance and Data, PHF*  ✓ *ECDC EVD networks, Celine GOSSNER, Principal Expert Emerging and Vector-borne Diseases, DPR*

	 ✓ *ELDSNet and TALD, Lara PAYNE HALLSTROM, Principal Expert Respiratory Diseases - Legionnaires' Disease, DPR*  • **Options for participation in Euro-GASP,** *Benjamin BLUEMEL, Expert HIV, Sexually Transmitted Infections and Viral Hepatitis, DPR*  • **Microbiology support to Western Balkans and Türkiye and ECDC approaches on EULabCap and adaption of ENLabCap** ○ *Theresa ENKIRCH, Expert Microbiology, PHF*  ○ *Nina LAGERQVIST, Expert Microbiology and Applied Molecular Surveillance, PHF*  **Reflections from the countries, Q&A**
12:30 – 13:30	***Lunch break*** *13:25 Group photo with ECDC Director*
13:30 – 13:45	**Welcoming address by ECDC Director** *Andrea AMMON, ECDC Director*
13:45 – 14:00	**ECDC preparedness and response activities for Western Balkans and Türkiye,** *Thomas HOFMANN, Head of Section Emergency Preparedness and Response, PHF* 
14:00 – 15:00	**ECDC long-term surveillance framework and strengthening surveillance in Western Balkans and Türkiye,** *Phillip ZUCS, Principal Expert General Surveillance/ Group Leader General Surveillance and Data, PHF* **Round-table reflections and discussion with countries on needs and priorities** (5 min each country): ❖ *Country progress and future plans to strengthen surveillance* ❖ *Ongoing projects/initiatives in the countries* ❖ *Country needs and ECDC future support*
15:00 – 15:30	**ECDC-IPA6 project: Advancing One-Health approaches against AMR,** *Dominique MONNET, Head of Section, AMR and Healthcare-Associated Infections, DPR, ECDC*  **Discussion on in-country developments on AMR and One Health approaches (tour-de-table)**
15:30 – 16:00	**Coffee/tea break**

16:00 – 16:30	**ECDC-IPA6 project: Enhancing SARI surveillance to support the implementation of fit-for-purpose surveillance systems: state-of-play and future steps**: ✓ *Carlos CARVALHO, Expert General Surveillance and eHealth, PHF*  ✓ *Edoardo COLZANI, Principal Expert Coronavirus and Influenza / Group Leader Coronavirus and Influenza, DPR*  **Q&A**
16:30 – 17:00	**Meeting conclusions and next steps**

Annex 2. List of participants

Country	Name	Affiliation
Albania	[redacted] (Online)	National ECDC Correspondent Head, Epidemiology and Control of Infectious Diseases Department National Institute of Public Health of Albania
	[redacted] (Online)	Observer National Focal Point for Microbiology (member) Microbiologist, Tirana University Hospital Centre
	[redacted] (Online)	Observer National Focal Point for Preparedness and Response (member) Epidemiologist, Department of Epidemiology and Control of Infectious Diseases, National Institute of Public Health of Albania
	[redacted] (Online)	Observer National Focal Point for Microbiology (member), Head of Laboratory Service, Control of Infectious Diseases Department, National Institute of Public Health of Albania
	[redacted] (On-site)	Observer National Focal Point in Surveillance (alternate) MD, Epidemiologist, National Communicable Diseases Surveillance Centre, Epidemiology and Control of Infectious Diseases Department, National Institute of Public Health of Albania
	[redacted] (Online)	Contact Point for Operations for Emergent and Vector-borne Diseases Epidemiologist, National Institute of Public Health of Albania
	[redacted] (Online)	Contact Point for Operations, National Influenza Centre, National Institute of Public Health of Albania
	[redacted] (Online)	Contact Point for Operations for EVD Veterinary Epidemiologist, Department of Epidemiology and Control of Infectious Diseases, National Institute of Public Health of Albania
	[redacted] (Online)	Contact Point for Operations for EVD Microbiologist, National Institute of Public Health of Albania
	[redacted] (Online)	Contact Point for Operations for EVD PhD, Virologist National Institute of Public Health of Albania
Bosnia and Herzegovina	[redacted] (On-site)	National ECDC Correspondent Expert Advisor for Coordination in the Field of Addiction and Other Environmental Impacts on Human Health, Ministry of Civil Affairs of Bosnia and Herzegovina
Kosovo[6]	[redacted] (On-site)	National ECDC Correspondent Assistant Professor of Microbiology National Institute of Public Health of Kosovo
	[redacted] (Online)	Observer National Focal Point for Surveillance (member) Epidemiologist, National Institute of Public Health of Kosovo
	[redacted] (Online)	Observer National Focal Point for Microbiology (member) National Institute of Public Health of Kosovo
	[redacted] (Online)	Observer National Focal Point for Preparedness and Response (member) Director of Department for Health Services, Ministry of Health of Kosovo
	[redacted] (Online)	Observer National Focal Point for Surveillance (alternate) Epidemiologist, National Institute of Public Health of Kosovo
Montenegro	[redacted] (On-site)	Observer National Focal Point for Surveillance (member) MD, PhD, epidemiologist, Institute for Public Health of Montenegro
	[redacted] (Online)	Observer National Focal Point for Preparedness and Response (member) Epidemiologist, Institute for Public Health of Montenegro
	[redacted] (Online)	Observer National Focal Point of Microbiology (member) Microbiologist Institute for Public Health of Montenegro
	[redacted] (Online)	Observer National Focal Point for Surveillance (alternate) Epidemiologist, Institute for Public Health of Montenegro
	[redacted] (Online)	Observer National Focal Point for EVD (alternate) Institute of Public Health of Montenegro

[6] 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.

North Macedonia	[redacted] (On-site)	National ECDC Correspondent and MediPIET National Focal Point Institute for Public Health of Republic of North Macedonia
	[redacted] (On-site)	Observer National Focal Point for Surveillance (member) Epidemiologist, Head of the Sector for Control and Monitoring of Communicable Diseases, Institute for Public Health of Republic of North Macedonia
	[redacted] (Online)	Observer National Focal Point for EVD (alternate) Institute for Public Health of Republic of North Macedonia
Serbia	[redacted] (On-site)	National ECDC Correspondent University of Belgrade
	[redacted] (Online)	Observer National Focal Point for VRD (member) Epidemiologist, Institute of Public Health of Serbia "Dr Milan Jovanovic Batut"
	[redacted] (Online)	Observer National Focal Point for Preparedness and Response (member) Deputy Director, Clinic for Infectious and Tropical Diseases
	[redacted] (Online)	Observer National Focal Point for Microbiology (alternate) Microbiologist/Parasitologist, Institute of Public Health of Serbia "Dr Milan Jovanovic Batut"
	[redacted] (Online)	Contact Point for Operations for Gonorrhoea and Hepatitis A Epidemiologist, Head of Department for HIV infection, STI, viral hepatitis and tuberculosis
Türkiye	[redacted] (On-site)	National ECDC Correspondent Assistant EU Expert, General Directorate for Foreign and EU Relations, Ministry of Health of Türkiye
	[redacted] (Online)	Head of EU Department Ministry of Health of Türkiye
	[redacted] (Online)	Director of Virology Laboratory, General Directorate of Public Health, Ministry of Health of Türkiye
	[redacted] (Online)	MediPIET National Focal Point General Directorate of Public Health
	[redacted] (Online)	General Directorate of Public Health, Ministry of Health of Türkiye

European Commission and ECDC

	Name	Affiliation
DG NEAR	Hillen Francke (Online)	Head of Sector, Civil Society, Social Inclusion and Human Capital Development, DG NEAR
	Andrew Williams (Online)	Policy officer, Western Balkans, DG NEAR
	Marta Brites (Online)	Programme Manager, IPA planning, reporting, and coordination Western Balkans, DG NEAR
ECDC	Andrea Ammon	Director
	Antonis Lanaras	Head of European and International Cooperation Section, DIR
	Agne Bajoriniene	International Relations Officer, DIR
	Benjamin Bluemel	Expert HIV, Sexually Transmitted Infections and Viral Hepatitis, DPR
	Carlos Carvalho	Expert General Surveillance and eHealth, PHF
	Celine Gossner	Principal Expert Emerging and Vector-borne Diseases, DPR
	Dominique Monet	Head of Section, AMR and Healthcare-Associated Infections, DPR
	Edoardo Colzani	Principal Expert Coronavirus and Influenza / Group Leader Coronavirus and Influenza, DPR
	Lara Payne Hallstrom	Principal Expert Respiratory Diseases - Legionnaires' Disease, DPR
	Nina Lagerqvist	Expert Microbiology and Applied Molecular Surveillance, PHF
	Phillip Zucs	Principal Expert General Surveillance/ Group Leader General Surveillance and Data, PHF
	Theresa Enkirch	Expert Microbiology, PHF
	Thomas Hoffman	Head of Section Emergency Preparedness and Response, PHF
	Maria Tseroni	Project Scientific Officer Surveillance and Data, PHF
	Daniela Trocilo	Project Support Officer, ECDC-IPA6, DIR