

Joint external evaluation of IHR core capacities of

Azerbaijan

Mission report:

1–5 May 2023



World Health
Organization

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ISBN 978-92-4-008243-4 (electronic version)

ISBN 978-92-4-008244-1 (print version)

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Design and layout by Genève Design

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Acknowledgements

The Joint External Evaluation (JEE) WHO Secretariat would like to acknowledge the following entities and people, whose support and commitment to the principles of the International Health Regulations (2005) have ensured a successful outcome to this mission.

- The government and national experts of the Republic of Azerbaijan for their support of and work in preparing for, the JEE mission.
- The governments of the Federal Republic of Germany, the Republic of Italy, the State of Israel and the United States of America, for providing technical experts for the peer review process.
- The Food and Agriculture Organization of the United Nations, the International Atomic Energy Agency and the United Nations Development Coordination Office for their contribution of experts and expertise.
- The WHO Country Offices for Azerbaijan, Türkiye, the WHO Regional Office for Europe and WHO headquarters.
- Colorado State University for lending their expertise.
- The government of the Kingdom of Norway for their financial support to this mission.

Abbreviations

AAR	after action review
AFSA	Food Safety Agency of The Republic of Azerbaijan
AMR	antimicrobial resistance
AMU	antimicrobial use
ARI	acute respiratory infection
BWC	Biological Weapons Convention
CAESAR	central Asian and European Surveillance of Antimicrobial Resistance
CBRN	chemical, biological, radiological and/or nuclear
CCHF	Crimean Congo Haemorrhagic Fever
COVAX	COVID-19 Vaccines Global Access
DTRA	United States Defense Threat Reduction Agency
EBS	event-based surveillance
EC	European Commission
ECDC	European Centre for Disease Prevention and Control
EDCD	Epidemiology and Disease Control Division
EHS	essential health services
EIDSS	Electronic Integrated Disease Surveillance System
EIOS	epidemic intelligence from open sources
eLMIS	Electronic Logistic Management Information System
EMS	national emergency medical services
EMT	emergency medical teams
EOC	emergency operations centre
EQA	external quality assessments
EUFMD	European Commission for the Control of Foot-and-Mouth Disease
EVSM	Effective Vaccine Store Management
EWARS	Early Warning and Reporting System
ExComs	executive committees
FAO	Food and Agricultural Organization of the United Nations
FELTP	field epidemiology and laboratory training programme
FETP	field epidemiology training programme

GAVI	Global alliance on vaccines and immunization
GISRS	Global Influenza Surveillance and Response System
GLASS	Global Antimicrobial Resistance Surveillance System
GVAP	WHO Global Vaccine Action Plan
HACCP	Hazard Analysis and Critical Control Points
HAI	health care-associated infections
HPAI	highly pathogenic avian influenza
HPV	human papillomavirus
GIS	geographical information system
IAEA	International Atomic Energy Agency
IAR	intra-action review
ICAO	International Civil Aviation Organization
ICS	incident command system
IHR NFP	national IHR focal point
IMS	Incident Management System
INFOSAN	International Food Safety Authorities Network
IDP(s)	internally displaced person(s)
IPC	infection prevention and control
JRA	joint risk assessment
MDR	multidrug resistant
MDRO	multi-drug-resistant organism
MMR	measles, mumps and rubella
MNT	measles and neonatal tetanus
MOU	Memorandum of understanding
MR	Measles-Rubella
MRSA	methicillin-resistant <i>Staphylococcus aureus</i>
NAPHS	National Action Plan for Health Security
NGO	nongovernmental organization
NIP	National Immunization Programme
OPV	oral poliovirus vaccine
PCR	polymerase chain reaction
PCV	pneumococcal conjugate vaccine

PHEIC	public health emergency of international concern
PHEM	public health emergency management
PHEOC	public health emergency operations centre
PHSM	public health and social measures
PoE	point of entry
PPE	personal protective equipment
PVS WOAHA	performance of veterinary services evaluation
QSRD	quality, standards and regulatory division
RASFF	Rapid Alert System for Food and Feed
RCCE	risk communication and community engagement
RRT	rapid response team
RT-PCR	real time polymerase chain reaction
SAMHI	State Agency on Mandatory Health Insurance
SARI	severe acute respiratory illness
SCC	State Customs Committee
SPAR	State party annual self-assessment reporting tool
SPS	sanitary and phytosanitary standards
STAR	WHO Strategic Toolkit for Assessing Risks
TABIB	the Administration of Regional Medical Divisions
TrACSS	Tracking Antimicrobial Resistance Country Self-Assessment Survey
TWG	technical working group
UHC	universal health coverage
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
US CDC	United States Centres for Disease Control and Prevention
WAHIS	World Animal Health Information System
WASH	water, sanitation and hygiene
WGIHR	Working Group on amendments to the International Health Regulations (2005)
WOAH	World Organisation for Animal Health
ZIDAR	Zoonotic Influenza Distribution and Ranking systems

Executive summary

The Joint External Evaluation (JEE) team would like to express its appreciation to the Republic of Azerbaijan for volunteering to conduct a JEE. Azerbaijan's response to COVID-19 and its participation in the JEE and other global public health initiatives have consistently demonstrated Azerbaijan's political commitment, foresight, leadership and accountability in building and maintaining the country's core capacities to implement the IHR.

In 2019 Azerbaijan embarked on preparations for the JEE. Preparing for the JEE was then delayed as Azerbaijan prioritized their effort to respond to the COVID-19 pandemic; including strengthening health care capacities to treat COVID-19 cases; increasing vaccination, including implementation of innovative digital systems for vaccination promotion and administration; and enhancing its surveillance system. The JEE team wholeheartedly acknowledges Azerbaijan's voluntary participation in the JEE process and the decision to continue with the evaluation after the pandemic response, appreciates the country's dedicated engagement with the external team and express its gratitude for the warm hospitality and collegiality extended to the team. It is commendable that Azerbaijan and all nations which volunteer to undergo the JEE process demonstrate their unwavering commitment to strengthening global health security.

Findings from the joint external evaluation

During the JEE mission held in Baku from 1–5 May 2023, Azerbaijan's capabilities in 19 technical areas were assessed through a consultative process involving a multisectoral group of national experts and the multisectoral JEE external team. Through collaborative discussions and selected site visits, consensus was reached on scores and priority actions across all technical areas, aiming to enhance the implementation of the IHR (2005) and strengthen the resilience of Azerbaijan's health system in emergencies. In addition to the detailed evaluation in each section of this report, three overarching recommendations have emerged to consolidate the progress made and address cross-cutting challenges that, if not addressed, could hinder the implementation of the agreed priority actions. These recommendations are crucial for further advancing Azerbaijan's capacities across various technical domains.

Overarching recommendations

Develop a five-year, risk-based, prioritized and costed National Action Plan for Health Security, based on the recommendations of the JEE report.

The plan should define roles and responsibilities of all relevant stakeholders and coordination between different stakeholders. The plan should be implemented with a monitoring and evaluation framework and facilitate the implementation of all other plans and/or strategies in the pipeline in Azerbaijan that will augment IHR capacities, including the Multisectoral National Laboratory Strategic Plan, Antimicrobial resistance (AMR) National Action Plan, National Infection Prevention and Control (IPC) strategy and Public Health Emergency Operations Centre (PHEOC) Plan. These plans should be institutionalized with endorsed policies, guidelines, standard operating procedures and operational budgets aligned to government processes.

A National Action Plan for Health Security (NAPHS) that emphasizes sustained, institutionalized funding aligned with national fiscal and budget processes, embodies multisectoral collaboration and explicitly addresses staff incentives and retention, will strengthen the health sector's efforts to build and maintain core capacities under the IHR (2005).

The development of the NAPHS should also consider Azerbaijan's experiences and best practices in responding to the COVID-19 pandemic.

Enhance multisectoral collaboration to support IHR implementation

Azerbaijan can further improve its capacity to prevent, detect and respond to public health emergencies as mandated by the IHR (2005) by passing a law that provides a legal mandate to the National IHR Focal Point (NFP) based at the Ministry of Health (Ministry of Health). This mandate would ensure that the IHR NFP can effectively coordinate, collaborate and share information across sectors to respond to public health threats promptly and effectively, as required by the IHR (2005). It is recommended that Azerbaijan establish an IHR multisectoral committee with designated focal points from other ministries to implement this mandate. This committee would ensure that all government ministries, agencies and bodies with a role in IHR implementation are working together in a coordinated and efficient manner.

The IHR multisectoral committee can be supported by a multisectoral working group and expand to include a broader range of stakeholders across the human, animal, plant and environment sectors and cover areas such as AMR, laboratory, food safety and surveillance, to facilitate the development of joint standard operating procedures, data sharing, including establishment and updating of protocols, guidelines and resources (for example a list of priority diseases in compliance with the IHR (2005) and a list of priority multidrug resistant organisms for AMR) and streamlining of gender analysis in health data.

Areas for multisectoral collaboration include enhancing coordination between different agencies during health emergencies, conducting joint risk- and vulnerability analysis for vulnerable groups, coordinated outbreak investigation and response to zoonotic disease and other health events and consideration of good practices during COVID-19 (for example veterinary laboratory conducted PCR test for human samples).

Invest in health professionals across human and animal health and other sectors to effectively prevent, detect, assess and respond to public health threats as mandated by the IHR (2005)

Consolidate the human resources from various health sectors by enabling the free flow of statistics and information between these sectors to determine health professional capacity to prevent, detect, assess, report and respond to public health threats.

Improve equitable access to training opportunities and exercise programmes at all levels, open for all sectors. Establish a mechanism for implementing the lessons learned from these programmes and link different training and exercise programmes across sectors and ministries. This should be done with an overarching vision to enhance capacity under the IHR (2005) and promote the One Health approach.

Increase collaboration with partner countries to promote the sharing of national experience at the regional and global levels and to apply relevant best practices to the national system. Examples of such exchanges already conducted by Azerbaijan include taking expert advice from Lithuania on risk communication and community engagement (RCCE) during the COVID-19 pandemic, an exchange with Sweden on IPC in 2023 and a surveillance and information management study tour to Portugal in 2022.

Promote continuous learning through regular tabletop simulation exercises and after-action reviews (AARs) as previously done for the measles outbreak of 2018; intra-action reviews (IARs) as were done for COVID-19 in 2022; and periodically utilize the WHO Strategic Toolkit for Assessing Risks (STARs).

The external JEE team extends its deepest gratitude for the constructive and transparent discussions held in Baku and acknowledges Azerbaijan's commitment to actively participate in the JEE process. The dedication and efforts of all participants involved in the JEE is wholeheartedly appreciated, including the presenters, their teams and interpreters who facilitated meaningful discussions. Their diligent preparations, insightful presentations and warm hospitality greatly contributed to the success of the mission.



Azerbaijan: scores and priority actions

The table below is the summary of the final scores for each technical area (details and priority actions are shown in the respective report chapters), as agreed by the national and external JEE teams. The principles of the scoring system are described in the JEE tool, available from:

<https://www.who.int/publications/i/item/9789240051980>.

The JEE scoring is a 5-step Likert scale in which a score of one designates no capacity and incremental obligatory criteria for each indicator must be fulfilled to reach the next level. A score of five designates that the country has the required capacity and is able to sustain it. Indicators are proxies and are chosen with the aim of representing a probable wider capability than the actual measured factor. For ease of overview, a "traffic light" colouring system is used, whereby scores of one are shown as red; scores of two and three are yellow; and four and five are green.

The Azerbaijan JEE was conducted using the third edition of the JEE Tool (2022). It is important to note that the third edition of the tool reflects identified lessons from the response to the COVID-19 pandemic. A capacity score using the third edition of the JEE tool is, therefore, not directly comparable with scores achieved using any other version of the JEE tool. Likewise, if a country undergoing a second JEE achieves a lower score for a given technical area than it did on a previous JEE, this does not necessarily mean that country has lost capacity.

Scores: 1=No capacity; 2=Limited capacity; 3=Developed capacity; 4=Demonstrated capacity; 5=Sustainable capacity.

Scores and priority actions

Technical areas	Indicator no.	Indicator	Score	Priority actions
PREVENT				
P1. Legal instruments	P1.1.	Legal instruments	2	<p>Review and update the mapping and assessment of national and subnational legal instruments relevant to IHR implementation, to take into account the lessons learned during the response to the COVID-19 pandemic in Azerbaijan and the international level, to identify and support priority areas for strengthening. This process should take account of outcomes of the third amendment process of the IHR</p> <p>Conduct an expert legal analysis on a regular basis that:</p> <ul style="list-style-type: none">• identifies capacity gaps that need to be addressed based on functional reviews of the implementation of IHR core capacities in Azerbaijan; and• analyse the relevant legal instruments for IHR implementation in Azerbaijan to identify instruments in need to be revised or updated to strengthen IHR implementation.

Technical areas	Indicator no.	Indicator	Score	Priority actions
	P1.2.	Gender equity and equality in health emergencies	3	<p>This assessment should take account of outcomes of the third amendment process of the IHR</p> <p>Establish an overarching multi-sector committee or authority, responsible for IHR decision-making. This committee/authority should be chaired by the IHR National Focal Point from the Ministry of Health and include Designated Points of Contact from all government agencies, ministries and bodies with a role in IHR implementation</p> <p>Strengthen monitoring, evaluation and learning relating to gender and vulnerable or marginalized subgroups. This should be done by progressively increasing the percentage of health data that are disaggregated by gender (and according to other key demographic characteristics such as age, social and ethnic group) and routinely conducting analyses on the impact of infectious diseases and other health hazards and threats under the IHR on women, children and other key vulnerable or marginalized subgroups</p>
P2. Financing	P2.1.	Financing for IHR implementation	3	Evaluate and assess all budget lines, dedicated to IHR implementation and emergency health events in the budgets of the various ministries and governing bodies, to prioritize the necessary activities and increase funding for these crucial functions where necessary, to improve the overall national health status
	P2.2.	Financing for public health emergency response	4	<p>Based on the lessons learned from the COVID-19 pandemic, it is important to allocate a separate budget specifically for addressing public health emergencies, distinct from other catastrophic events. This will ensure that appropriate resources are readily available to respond effectively to future health crises</p>
P3. IHR coordination, National IHR Focal Point functions and advocacy	P3.1.	National IHR Focal Point functions	2	<p>Adopt a legal instrument giving a clear multi-sectoral cross-government mandate to the IHR NFP and sectors and agencies involved in IHR implementation. This mandate should ensure the fulfilment of the required functions of the IHR NFP and enable multisectoral collaboration and cross-government cooperation needed for full and effective IHR implementation</p> <p>Create a roster of IHR duty officers to advance the required functions of the IHR NFP outlined in the IHR, including to ensure its accessibility at all times (24 hours a day, seven days a week, 365 days a year) for communication with the WHO IHR Contact Point</p> <p>Establish a multisectoral committee with overarching authority to coordinate IHR implementation at national level. This should be chaired by the IHR NFP in the Ministry of Health and include focal points designated by other ministries and agencies involved in IHR implementation</p>

Technical areas	Indicator no.	Indicator	Score	Priority actions
	P3.2.	Multisectoral coordination mechanisms	3	Develop, adopt and implement a costed national plan on IHR implementation, to be developed by a multisectoral committee responsible for IHR implementation
	P3.3.	Strategic planning for IHR, preparedness or health security	2	Review resources available to the IHR NFP function to ensure it has the human, technological and financial resources needed to ensure fulfilment of its functions, including strengthening engagement with all IHR-implementing sectors
P4. AMR	P4.1.	Multisectoral coordination on AMR	3	Expand the AMR multisectoral working group to include a broader range of stakeholders across the human, animal plant and environment sectors
	P4.2.	Surveillance of AMR	2	Update list of priority MDRO
	P4.3.	Prevention of MDRO	1	Establish a mechanism/system to share AMR/AMU data with relevant international platforms such as CAESAR/GLASS and InFARM, in a regular and timely manner
	P4.4.	Optimal use of antimicrobial medicines in human health	3	Designate and operationalize a national reference laboratory and standardize existing methodologies
	P4.5.	Optimal use of antimicrobial medicines in animal health and agriculture	3	Formally approve the AMR National Action Plan. Explore opportunities to promote better sharing of AMR/AMU data across human, animal, plant and environment sectors Enhance multisectoral collaboration and involvement through the one health approach by establish mechanisms to involve the Ministry of Ecology in discussions at the national and regional levels on AMR, as well as in related decision-making processes
P5. Zoonotic disease	P5.1.	Surveillance of zoonotic diseases	4	Review and update standard operating procedures for the joint, multisectoral response to zoonotic diseases
	P5.2.	Response to zoonotic diseases	4	Annually assess the coordinated, multisectoral surveillance and including the involvement of external experts
	P5.3.	Sanitary animal production practices	3	Increase frequency of serological screening investigations to detect zoonotic infections, (e.g. avian flu) Improve risk mapping mechanisms on animal diseases in the existing GIS Accelerate the ongoing implementation of the HACCP system on farms Increase frequency of serological screening investigations to detect zoonotic infections

Technical areas	Indicator no.	Indicator	Score	Priority actions
P6. Food safety	P6.1.	Surveillance of food-borne diseases and contamination	3	Strengthen coordination and streamline the flow of information and data among the three relevant agencies with the aim to build a reliable and comprehensive surveillance system for 3–5 top priority of foodborne diseases, as a model for the planning of a long-term integration surveillance system
	P6.2.	Response and management of food safety emergencies	4	Strengthen the contingency plan for investigation of a food related illness with the ability to respond to such illness in a timely fashion Develop and implement a training programme on crisis management for relevant staff members that includes curriculum developments and exercises/ case scenarios Strengthen event-based (including epidemic intelligence from open source) and community-based surveillance (via food producing and processing companies)
P7. Biosafety and biosecurity	P7.1	Whole-of-government biosafety and biosecurity system is in place for human, animal and agriculture facilities	3	Establish Biosafety Level three laboratories within human and animal sector reference laboratories and ensure sustainable funding is available to maintain facilities Update and revise all laboratory guidelines and standard operating procedures taking a risk- and evidence-informed approach, in line with the WHO Biosafety Manual version four (2020)
	P7.2	Biosafety and biosecurity training and practices in all relevant sectors (including human, animal and agriculture)	3	Establish sustainable in-service biosafety and biosecurity training programmes using a One Health, training-of-trainers approach and leveraging online platforms Integrate biosafety and biosecurity training into academic training programmes for all medical professionals, including for laboratory technicians, biologists, professionals managing specimens of human, animal and environmental origin and others

Technical areas	Indicator no.	Indicator	Score	Priority actions
P8. Immunization	P8.1.	Vaccine coverage (measles) as part of national programme	5	<p>All the scores and the considerations presented above focus only on human health. An integrated approach aimed at adding value to a well-structured and effective system is important to close the gap between the human and animal health sectors in line with the One Health approach</p> <p>Improve the interoperability between COVID-19 data management system and the national electronic vaccination data management system to enhance Azerbaijan's digital systems for promoting and performing vaccinations and real-time data analysis</p> <p>Utilize and build on existing mechanisms for progressive introduction of new vaccines in the national immunization programme on the basis of substantiated epidemiological evaluations, in line with the technical opinion of the National Technical Consultative Experts Group on Immunization</p> <p>Improve activities such as vaccination sentiment analysis, community engagement and develop tailored immunization programmes to contrast vaccine hesitancy</p>
	P8.2.	National vaccine access and delivery	5	
	P8.3.	Mass vaccination for epidemics of VPDs	4	
DETECT				
D1. National laboratory systems laboratory	D1.1.	Specimen referral and transport system	4	<p>Expedite development of a multisectoral National Laboratory strategic plan taking a One Health approach, including the following actions:</p> <ul style="list-style-type: none">• clearly define the tiered laboratory network for the public health laboratory system; and• Enhance multisectoral coordination and communication among all agencies and sectors involved in the laboratory system <p>Strengthen data linkage with the national surveillance system to enable informed public health action</p>
	D1.2.	Laboratory quality system	3	<p>Improve turn-around-times for results reporting from private laboratories for outsourced specimens</p> <p>Centralize and strengthen the role and functionality of the National Public Health Reference Laboratories, including Formally designate a WHO national influenza centre</p> <p>Participate in the WOAHL laboratory twinning programme for veterinary laboratories</p>
	D1.3.	Laboratory testing capacity modalities	4	<p>Enhance collaborations with international reference laboratories for priority pathogens</p> <p>Achieve accreditation from internationally recognized accreditation bodies for National and Regional public health laboratories according to appropriate ISO standards.</p> <p>Improve the quality management systems of Regional and Clinical laboratories and develop microbiology testing capacity at hospital laboratories, through a National and/or International mentoring programme</p>

Technical areas	Indicator no.	Indicator	Score	Priority actions
	D1.4.	Effective national diagnostic network	3	Implement and expand the use of genomic surveillance across public health through establishing a centralized sequencing laboratory and bioinformatics unit and developing a National genomic surveillance strategy
D2. Surveillance	D2.1.	Early warning surveillance function	5	Update the list of prioritized infectious diseases in compliance with Annex 2 of the IHR (2005)
	D2.2.	Early warning surveillance function	4	Conduct a multisectoral table-top exercise on early warning to evaluate the performance of the surveillance system to timely identify unusual events. The exercise should include all levels of public health as well as the Ministry of Health and other agencies including security agencies
	D2.3.	Analysis and information sharing	5	Strengthen event-based surveillance and develop standard operating procedures, integrating information from WHO's EIOS, for conducting epidemic intelligence from open sources at national level According to the Azerbaijan surveillance experts, the COVID-19 database should be integrated into the EIDSS system to unify the multisectoral electronic surveillance system
D3. Human resources	D3.1.	Multisectoral workforce strategy	1	Consolidate the available human resources in all health sectors and establish mechanisms to enable a free flow of statistics and information between these sectors, in order to facilitate a coordinated multisectoral response to meet the diverse needs
	D3.2.	Human resources for implementation of IHR	3	
	D3.3.	Workforce training	2	Develop and implement a multisectoral national strategy and action plan, including joint multisectoral trainings for staff on the 2005 and One Health
	D3.4.	Workforce surge during a public health event	3	Conduct a mapping of existing national contingency and emergency plans to incorporate a Human Resources component, to define workforce surges for public health events and utilize the lessons learned from the COVID-19 pandemic
Respond				
R1. Health emergency management	R1.1.	Emergency risk assessment and readiness	3	Update the national all-hazards risk profile by conducting a multisectoral, multi-hazard risk assessment, including an emergency readiness assessment for potential public health emergencies within 1 year
	R1.2.	Public health emergency operations centre (PHEOC)	3	Establishment of multisectoral working group to coordinate and develop specific plans for Public Health Emergency Operations Centre (PHEOC)
	R1.3.	Management of health emergency response	4	Setting up Public Health Emergency Operations Centres (PHEOCs) and hub-and-satellite hospital networks and coordination instances between regional and develop health emergency response standard operating procedures

Technical areas	Indicator no.	Indicator	Score	Priority actions
	R1.4.	Activation and co-ordination of health personnel in a public health emergency	2	Certify EMT focal points for policy and operations and develop training and guidance materials for deploying health staff during public health emergencies
	R1.5.	Emergency logistic and supply chain management	3	
	R1.6.	Research, development and innovation	3	
R2. Linking public health and security authorities	R2.1.	Public health and security authorities (e.g. law enforcement, border control, customs) are linked during a suspect or confirmed biological, chemical or radiological event	4	<p>Develop, adopt and implement an annual joint emergency response training programme and simulation exercises involving all relevant partners and stakeholders, ensuring regularity and consistent collaboration</p> <p>Incorporate focal points from the Ministry of Internal Affairs and other relevant security services into the cross-government IHR Task Force</p> <p>Develop manuals and brochures to enhance communication and comprehension between public health and security services, including contact numbers and other pertinent information for swift communication</p>
R3. Health services provision	R3.1.	Case management	3	Update, consolidate, disseminate and implement the national clinical management guidelines for all priority risks as a priority action within the next year
	R3.2.	Utilization of health services	3	
	R3.3.	Continuity of essential health services (EHS)	4	<p>Strengthen capacities for emergency preparedness and service resilience, by conducting a mapping and gap analysis of the health workforce in the different health-care facilities, to allow for planning of qualitative and quantitative needs in this area in order to guarantee delivery of essential health services and that the health needs of the population are met during disruptive public health events</p> <p>Conduct a stakeholder analysis in order to develop and consolidate standard operating procedures for agencies involved in health service provision during health emergencies to enhance coordination in this area at all levels</p> <p>Update the national and regional assessments and evaluate clinical and epidemiological needs for the provision and maintenance of essential health services and health systems functions during public health events, including the continued delivery of essential health services at all levels, with a particular focus on the risk and vulnerability of fragile, vulnerable and hard to reach populations</p>

Technical areas	Indicator no.	Indicator	Score	Priority actions
R4. IPC	R4.1.	IPC programmes	2	Take required steps for the approval of the National IPC strategy
	R4.2.	HAI surveillance	1	Implement the WHO core components of IPC programmes at national, regional and facility levels. The implementation should include baseline assessments development of operational and funded facility-based IPC action plans
	R4.3.	Safe environment in health facilities	3	Update a national hand hygiene improvement plan which includes systematic monitoring of hand hygiene as a key performance indicator at national level Conduct a nation-wide point prevalence on health care-associated infections. This will allow facilities to target IPC measures and assess trends and contribute to further align national HAI surveillance goals and objectives with national targets Implement in all health-care facilities the WHO minimum requirements for safe built environment in line with the approved WASH roadmap. The implementation should include baseline assessment utilizing WASH-FIT tool and the development of operational and funded facility-based WASH action plans
R5. Risk communication and community engagement (RCCE)	R5.1.	RCCE systems for emergencies	3	Develop a strategic RCCE network, linking the RCCE staff across government to share best practices, tools and research results relevant to RCCE.
	R5.2.	Risk communication	4	This network should develop links with academic institutions, civil society and international partners to enhance knowledge sharing and good practices
	R5.3.	Community engagement	3	Develop and implement a multisectoral programme of RCCE training and capacity-building actions. This should aim at further strengthening RCCE capacities in civil society, the media and among scientists as well as IHR-implementing entities at all levels Develop and implement a joint One Health communication strategy with all relevant sectors including animal health, food safety and environment

Technical areas	Indicator no.	Indicator	Score	Priority actions
IHR-related hazards and points of entry and border health				
PoEs: points of entry and border health	PoE1.	Core capacity requirements at all times for PoEs (airports, ports and ground crossings)	4	Validate the National Public Health Emergency Plan and its risk assessment component among all points of entry through joint multisectoral exercises such as table-top exercises and functional drills
	PoE2.	Public health response at PoEs	4	Enhance routine core capacity as set out in IHR (2005) Annex 1b, including food and water safety, waste management and vector control, for alignment and compliance with requirements under the IHR and relevant WHO guidelines
	PoE3.	Risk-based approach to international travel-related measures	3	Enhance activities at points of entry to control infectious hazards (such as upgrade the isolation units) under the official agreements with neighbouring countries, particularly those agreements involving neighbouring countries with which Azerbaijan manage a high level of trade and movement of people
CE. Chemical events	CE1.	Mechanisms established and functioning for detecting and responding to chemical events or emergencies	3	Conduct a risk assessment for the need of stockpiles and national storage Develop a complex programme, including mechanisms of response to chemical incidents and cross-border information exchange
	CE2.	Enabling environment in place for management of chemical event	2	Develop and maintain an online database for hazard chemicals and substances
RE. Radiation emergencies	RE1.	Mechanisms established and functioning for detecting and responding to radiological and nuclear emergencies	2	Conduct a risk assessment to assess the size of the population that needs to be protected in case of a radiation emergency Based on the risk assessment results, build up a national stockpile of pharmaceutical agents that can be used as countermeasures in radiation emergencies (such as diethylene triamine penta-acetic acid, prussian blue, potassium iodide, cytokines)
	RE2.	Enabling environment in place for management of radiological and nuclear emergencies	3	Establish a laboratory system for better control of radiation emergency events.

Note: GIS: geographical information system; EIOS: epidemic intelligence from open sources; EMT: Emergency Medical Team; HACCP: Hazard Analysis Critical Control Point; HAI: health care-associated infections; MDRO: multidrug resistant organisms; PoE: points of entry; WOA: World Organization for Animal Health; VPD: vaccine-preventable disease.

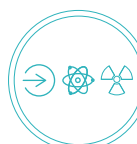
Prevent



P1. Legal instruments

Introduction

The International Health Regulations (IHR) (2005) provide obligations and rights for States Parties. In some States Parties, implementation of the IHR (2005) may require new or modified legislation. Even if new or revised legislation may not be specifically required, States may still choose to revise some regulations or other instruments in order to facilitate IHR implementation and maintenance. Implementing legislation could serve to institutionalize and strengthen the role of IHR (2005) and operations within the State Party. It can also facilitate coordination among the different entities involved in their implementation. See detailed guidance on IHR (2005) implementation in national legislation. In addition, policies that identify national structures and responsibilities as well as the allocation of adequate financial resources are also important.



Target

Adequate legal instruments for States Parties to support and enable the implementation of all their obligations and rights created by the IHR. The development of new or modified legal instruments in some States Parties for the implementation of the Regulations. Where new or revised legal instruments may not be specifically required under a State Party's legal system, the State may revise some laws, regulations or other legal instruments in order to facilitate their implementation in a more efficient, effective or beneficial manner.

Level of capabilities

One of the main functions of Azerbaijan is to ensure the health care for the population as mentioned in Article 41 of the Constitution (1995). Azerbaijan's health-care system is mainly divided between Ministry of Health, the Administration of Regional Medical Divisions (TABIB) and local authorities. Central institutions and a number of facilities including republican hospitals, research institutes and the national sanitary epidemiological system, are under the Ministry of Health. Local hospitals, district polyclinics and specialized dispensaries are owned by district and city administrations.

Other ministries also manage health services in addition to their main service, such as the Ministry of Transport, Communications and High Technologies of the Republic of Azerbaijan, the Ministry of Defence and the State Customs Committee (SCC). The Azerbaijan Medical University was also under the responsibility of the Ministry of Health but was granted autonomy a few years after independence.

Azerbaijan has legal instruments in place at national and subnational levels that support Azerbaijan's obligations and implementation of core capacities under the IHR (2005). Legal instruments cover a wide range of risks and functions in the health sector, as well as other sectors that are relevant to public health emergency response.

In Azerbaijan, implementation of the IHR (2005) is supported by several legal instruments, including the following laws.

- Law on Protection of Public Health: this law is the primary legal instrument that regulates public health in Azerbaijan. It outlines the responsibilities of the government, health-care providers and individuals, in maintaining public health and preventing the spread of diseases.
- Law on Prevention and Control of Infectious Diseases: this law regulates the prevention and control of infectious diseases in Azerbaijan. It provides guidelines for the identification, reporting and management of infectious diseases, as well as the measures that can be taken to prevent their spread.

- Law on Sanitary and Epidemiological Welfare of the population: this law regulates the sanitary and epidemiological welfare of the population in Azerbaijan. It outlines the procedures for preventing and controlling infectious diseases and other public health threats.
- National Action Plan for IHR Implementation (2007): Azerbaijan has developed a national action plan for IHR implementation which outlines the measures that need to be taken to ensure compliance with the instrument. The action plan also includes strategies for strengthening surveillance systems, enhancing laboratory capacity, improving risk communication and building partnerships with other countries and international organizations.

Overall, these legal instruments provide a strong framework for the implementation of IHR (2005) obligations in Azerbaijan. The key organizations to implement the IHR (2005) obligations of Azerbaijan are Ministry of Health, the State Agency on Mandatory Health Insurance (SAMHI) and the Administration of Regional Medical Divisions (TABIB).

Ministry of Health

The Ministry of Health operates under a statute signed by the President of Azerbaijan on 29 December 1998. The main functions of the ministry are the organization and regulation of Azerbaijan's health-care system to provide sufficient medical care to the population; preparation and implementation of state health-care programmes; conduct activities for improvement of services by medical companies in both public and private sectors; regulation of sanitary-epidemiological stations; preparation of programmes on parenthood and family planning; provision of medical drugs, bacteriological and antivirus products to hospitals; regulations for and development of, pharmacy networks; research and development of medical equipment manufacturing; and prevention of dangerous diseases in the country.

SAMHI

The Law on Medical Insurance (1999) was not widely implemented in the country and employees were rarely subjected to compulsory medical insurance, so different actions were carried out to fill the gaps in health insurance. One of them was the establishment of SAMHI. Regulation and structure of SAMHI was approved by the President of Azerbaijan by Decree No. 765 (15 February 2016). The goal was to implement a new system that will provide a health insurance fund for pensioners, non-working citizens and those receiving state-financed social benefits. The agency started a pilot compulsory health insurance project on "Measures for ensuring implementation activities of mandatory health insurance" in Mingachavir and Yevlakh.

TABIB

On 20 December 2018, the President of Azerbaijan signed a decree on the establishment of the Administration of Regional Medical Divisions (TABIB) under SAMHI, to ensure implementation of the mandatory medical insurance system in the country. On 18 April 2019, the list of medical institutions subordinate to TABIB was approved. Since 2020, many state institutions subordinate to the Ministry of Health have been transferred to TABIB.

The creation of SAMHI and its subordinate management structure TABIB has introduced another national government level actor in Azerbaijan's health care governance system. The SAMHI/TABIB structure removes some but not all of the management/flow-of-funding challenges from the former system. The formation of SAMHI and TABIB included the transfer of management of most public sector health facilities to TABIB. For example, TABIB absorbed most of the management of Baku polyclinics, hospitals, vertical state public health programmes and research institutes from the Ministry of Health. Most other line ministries maintain control over their parallel health structures. TABIB also took over the management of health facilities formerly overseen by executive committees (ExComs) and municipalities. TABIB manages facilities through offices in 14 regional medical divisions. The transfer of management between the old structure including Ministry of Health, ExComs and municipalities and the new TABIB, is likely a challenging exercise.

The recent reorganizations create administrative pressures at the top. It is sometimes not entirely clear which end organization is responsible for what parts of the health system. Additionally, the key players in health sector reforms need to manage changes in responsibilities. A clear organization chart with transparent division of responsibilities can help to create more synergy and improve efficiency.

Gender equality

In Azerbaijan, the government has taken steps towards gender equality in recent years, including passing laws and policies aimed at eliminating gender discrimination and promoting women's rights. However, there is not a specific action plan related to gender equity and equality in health emergencies. It is worth noting that gender gaps in health care can manifest in a variety of ways, including in access to health-care services, quality of care and representation in leadership positions within the health-care system. Addressing these gaps requires a multifaceted approach that involves policy and institutional changes, as well as changes in societal attitudes and norms towards gender roles and gender-based discrimination. Many of the statistics available to the public in Azerbaijan are not disaggregated by gender, gender identity, region, rural/urban, age or socioeconomic status. This is limiting the use of this data in creating a better understanding of health and health-care access issues faced by particular subgroups of the population.

Indicators and scores

P1.1. The State has assessed, adjusted and aligned its legal instruments in all relevant sectors to enable compliance with the IHR: **score 2**

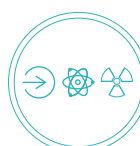
Azerbaijan has conducted legal mapping of relevant legal instruments for IHR implementation at the national and regional levels, including documentation where applicable. To reach level 3, Azerbaijan needs to review and update this legal mapping and conduct an assessment of available relevant legal instruments for IHR implementation at national and regional levels. This exercise should include consideration of lessons learned during the COVID-19 pandemic, to identify and support priority areas for strengthening.

Strengths

- Strong commitment and support from the government.
- Multi-sector collaboration takes place.
- Good international collaboration. For example, Azerbaijan utilized experiences from Lithuania during the COVID-19 pandemic response.
- Extensive body of laws, regulations orders and action plans relating to health – more than 30 instruments presented.
- National Action plan for IHR implementation exists from 2007.
- Complying with the IHR (2005) is a condition for licencing health and tourism facilities across the country.

Challenges

- Though there has been an extensive mapping of relevant legislation, a legal analysis has not been conducted to look at gaps, inconsistencies or areas where legal instruments may need to be updated.
- National Action Plan for IHR implementation (2007) needs to be reviewed.
- To make the current body of laws simpler, more coherent and more clearly in line with the IHR (2005).
- The IHR (2005) is currently undergoing an amendment process to incorporate identified lessons from the response to the COVID-19 pandemic.



P1.2. Gender equity and equality in health emergencies: **score 3**

An action plan to address identified high priority gender gaps in at least one IHR capacity is developed and incorporated into annual workplans. Although no annual work plan could be shown as such during the evaluation, consensus was reached on level three because the statistics and policy documents related to gender equality produced annually by the National Committee for Women and Family Rights, could be seen as such. To reach level 4, Azerbaijan needs to develop an action plan and a workplan to be updated annually on gender equity and equality and have mechanisms in place for monitoring, evaluation and reporting.

Strengths

- Equal rights between all citizens of Azerbaijan (regardless of gender or ethnic origin) is written into Article 23 of the Constitution (1995).
- The health system has several mechanisms for promoting health equality.
- There is good gender balance within the health system.
- The National Committee for Women and Family Rights produce statistics and policy documents relating to gender equality.

Challenges

- Health data are not systematically disaggregated for gender. The statistical basis for analysing gender gaps or inequalities in health is, therefore, limited.
- Analysis of gaps or vulnerabilities relating to women, children or other potentially underserved groups is not routinely done in connection to the development of health policies or actions.

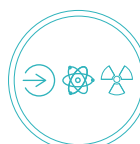
Recommendations for priority actions

- Review and update the mapping and assessment of national and subnational legal instruments relevant to IHR implementation, to take into account the lessons learned during the response to the COVID-19 pandemic in Azerbaijan and the international level, to identify and support priority areas for strengthening. This process should take account of outcomes of the third amendment process of the IHR.
 - » Conduct an expert legal analysis on a regular basis that: identifies capacity gaps that need to be addressed based on functional reviews of the implementation of IHR core capacities in Azerbaijan; and analyse the relevant legal instruments for IHR implementation in Azerbaijan to identify instruments in need to be revised or updated to strengthen IHR implementation. This assessment should take account of outcomes of the third amendment process of the IHR.
- Establish an overarching multi-sector committee or authority, responsible for IHR decision-making. This committee/authority should be chaired by the IHR National Focal Point from the Ministry of Health and include Designated Points of Contact from all government agencies, ministries and bodies with a role in IHR implementation.
- Strengthen monitoring, evaluation and learning relating to gender. This should be done by progressively increasing the percentage of health data that are disaggregated by gender (and according to other key demographic characteristics such as age, social and ethnic group) and routinely conducting analyses on the impact of infectious diseases and other health hazards and threats under the IHR on women, children and other key subgroups.

P2. Financing

Introduction

The implementation of the IHR, including development of the core capacities, requires adequate financing. State Parties should ensure sufficient allocation of funds for IHR implementation.



Target

States Parties ensure provision of adequate funding for IHR implementation through the national budget or other mechanisms. Country has access to financial resources for the routine implementation of IHR capacities and financial resources that can be accessed on time and distributed for readiness and response to public health emergencies, is available.

Level of capabilities

It should be noted that, as the external team did not receive translated and updated documentation for this technical area, the data reported in this chapter is derived from source research and information provided during the discussion of this technical area during the JEE.

Funding of the health sector by the government has been an important factor in the state health system politics and in reform efforts. In terms of decision-making and administration of health financing, major actors include Ministry of Health, the Ministry of Finance, regional authorities and rural municipalities. Ministry of Health sets the health policy priorities for the country as a whole, while regional authorities and municipalities outside of Baku receive funding directly from the Ministry of Finance. Regional authorities and rural municipalities receive funds for health facilities in their districts directly from the Ministry of Finance, without direct involvement of the Ministry of Health. In addition, individual line ministries including the SCC, State Railways, the Ministry of Defence, Ministry of Internal Affairs and the Ministry of Emergency Situations and the State Oil Company, manage a significant number of parallel health-care facilities and services which are available and offered to their employees.

Azerbaijan has recently completed its transition to a compulsory health insurance system. On 1 April 2021 the government finalized the full implementation of coverage for its entire population. The insurance scheme consists of coverage for primary, inpatient, emergency and specialized outpatient care, as well as laboratory services, physiotherapy and invasive radiology. The compulsory health insurance system is administered by the Ministry of Health. Specifically, Ministry of Health both regulates as well as provides health-care services. Ministry of Health is also in charge of public education, research, development of medical equipment and prevention of disease.

TABIB, the public legal entity under SAMHI, provides medical services to citizens across all health-care providers. Ministry of Health, SAMHI and TABIB are responsible for IHR implementation at national level. This includes ensuring that the country has the necessary infrastructure, systems and resources in place to detect, assess, notify and respond to public health events of international concern. TABIB and Ministry of Health are key actors in securing funding, managing budgets and overseeing the use of resources to support IHR implementation activities.

The Ministry of Emergency Situations plays a critical role in ensuring that the country is prepared to respond to public health emergencies.

Indicators and scores

P2.1. Financing for IHR implementation: **score 3**

Financial planning in Azerbaijan is based on estimated resource needs. A budgetary allocation is made for relevant ministries and sectors to support IHR implementation at national level. Monitoring and accountability mechanisms are in place. The health budget can be improved, particularly at regional level, to ensure sustainable IHR implementation. Sufficient budget allocation will help achieve level four at the next JEE.

Strengths

- Mandatory insurance system is in place.
- Track and trace mapping of costs related to IHR implementation has been conducted by Ministry of Health.
- Financial commitment of 2.9 million Azerbaijani manat has been made by the government to support IHR implementation by allocating funds to Ministry of Health and other relevant governing bodies.
- National Action Plan for IHR implementation exists since 2007.
- No external funds are necessary.
- Several ministries and agencies are involved in implementation of the IHR with their own budgets.

Challenges

- No specific budget lines for IHR implementation.
- No consolidated budget mapping.
- No mechanism to track and trace consolidated budget for IHR implementation.
- The National Action Plan for IHR implementation (2007) has not been reviewed since its development.
- Fragmented budgets with insufficient oversight.

P2.2. Financial resources for public health emergency response: **score 4**

Azerbaijan has a financial resources mechanism in place for responding to public health emergencies at the national, intermediate and primary public health levels and allows for the timely distribution and execution of funds by all relevant sectors during a public health emergency. Because the financial capacity of the health budget needs an increase and it is uncertain whether the underfunding of the health sector, specially at the regional and local level, will also affect absorption capacity during a health emergency, a score of five has not been assigned.

Strengths

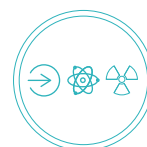
- The government has recognized the importance of having a preparedness plan for emergencies, including those related to public health.
- Dedicated budget for emergency response exists and is allocated to the Ministry of Emergency Situations.
- Existing emergency committee can deliver necessary funding in very short notice in case of a serious public health emergency.

Challenges

- The COVID-19 outbreak showed insufficient budgetary preparedness for big catastrophic emergencies.
- Absorption capacity of available funds for public health emergency response.

Recommendations for priority actions

- Evaluate and assess all budget lines, dedicated to IHR implementation and emergency health events in the budgets of the various ministries and governing bodies, to prioritize the necessary activities and increase funding for these crucial functions where necessary, to improve the overall national health status.
- Based on the lessons learned from the COVID-19 pandemic, it is important to allocate a separate budget specifically for addressing public health emergencies, distinct from other catastrophic events. This will ensure that appropriate resources are readily available to respond effectively to future health crises.



P3. IHR coordination, NFP functions and advocacy

Introduction

The effective implementation of the IHR requires multisectoral/multidisciplinary approaches through national partnerships for efficient alert and response systems. Coordination of nationwide resources, including the designation of a national IHR focal point (NFP) and adequate resources for IHR implementation and communication, is a key requisite for a functioning IHR mechanism at country level.

Target

Multisectoral/multidisciplinary approaches through national partnerships that allow efficient, alert and response systems for effective implementation of the IHR. Coordinate nation-wide resources, including sustainable functioning of a National IHR Focal Point – a national centre for IHR communications which is a key obligation of the IHR – that is accessible at all times. States Parties provide WHO with contact details of National IHR Focal Points, continuously update and annually confirm them. Timely and accurate reporting of notifiable diseases, including the reporting of any events of potential public health significance according to WHO requirements and consistent relay of information to FAO and OIE. Planning and capacity development are undertaken and supported through advocacy measures to ensure high-level support for implementation of IHR.

Level of capabilities

Azerbaijan's National IHR NFP is located in the Department of Public Health and Sanitary-Epidemiological Control in the Ministry of Health and has demonstrated its skills, commitment and effectiveness during the COVID-19 pandemic, as well as during the WHO led simulation Exercise Joint Assessment and Detection of Events (JADE) in 2022. Strong and effective whole-of-government coordination of health emergency response via the Operational Headquarters under the Cabinet of Ministers was demonstrated during the COVID-19 pandemic and informal cross-government coordination takes place on non-emergency aspects on IHR implementation and preparedness. Nonetheless, the IHR NFP does not have a clear multisectoral cross-government legal mandate as required by the IHR (2005). There is also no formal multisectoral coordination mechanism for IHR implementation beyond emergency response.

The National Action Plan on IHR implementation from 2007 has not been reviewed or updated since its development and roll-out. A multisectoral, multi-agency update and review of the IHR implementation plan is needed in view of the recent changes to Azerbaijan's health system such as the creation of SAMHI and TABIB and to incorporate lessons learned by the authorities in Azerbaijan from the response to the COVID-19 pandemic and the outcomes of the ongoing IHR (2005) amendment process led by the Working Group on amendments to the International Health Regulations (2005) (WGIHR).

Indicators and scores

P3.1. IHR NFP functions: **score 2**

While the NFP demonstrated its skills and effectiveness during the COVID-19 pandemic response, it does not have a clear multisectoral cross-government legal mandate. The absence of a duty officer rotation system is also an important aspect and current challenge in terms of the fulfilling the obligatory 24/7

accessibility of the IHR NFP for the WHO IHR Regional Contact Point, other States Parties to the IHR (2005) and international partners, as stated under Article four of the IHR (2005).

Strengths

- The designated IHR NFP (the Department of Public Health and Sanitary-Epidemiological Control in the Ministry of Health) has a strong team skilled in surveillance and risk assessment.
- The IHR NFP is meticulous in submitting reports to Ministry of Health and WHO on time and responds to requests in a timely manner.
- Head of the Department of the IHR NFP can be contacted outside office hours via mobile telephone and email.
- The IHR NFP took part in the WHO led simulation exercise JADE in 2022, to test and practice IHR NFP functions and communication with the WHO IHR Regional Contact Point.

Challenges

- The IHR NFP does not have a clear multisectoral cross-government legal mandate as required by the IHR (2005).
- Limited resilience of system for communication between the IHR NFP and the WHO IHR Regional Contact Point, as it is not based on a duty officer system to ensure 24 hours a day, seven days a week, 365 days a year accessibility, as stipulated in Article four of the IHR (2005).

P3.2. Multisectoral coordination mechanisms: **score 3**

Azerbaijan has a system to ensure strong multisectoral coordination during health emergencies but coordination across government bodies and sectors outside of emergencies is informal.

Strengths

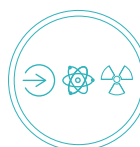
- Operational Headquarters under Cabinet of Ministers provided multisectoral whole-of-government coordination for response to the COVID-19 pandemic.
- The mechanism of creating an Operational Headquarters, as done during the response to COVID-19, can be used to coordinate future emergency responses.
- The IHR NFP has created an informal task force with counterparts from the different government bodies involved in IHR implementation to coordinate on IHR (2005) related matters.

Challenges

- No formal mechanism exists for coordinating multisectoral cross-government IHR implementation beyond the end of the pandemic and throughout the emergency cycle.
- The current coordination mechanism is informal, which entails limited legal and administrative authority to ensure cooperation and coordination among the relevant government bodies.
- IHR implementation positioned as the responsibility of the Ministry of Health rather than a whole-of-government responsibility.

P3.3. Strategic planning for IHR, preparedness or health security: **score 2**

Azerbaijan developed a National Action Plan on IHR implementation in 2007, but the implementation of the Action Plan has not been systematically reviewed or renewed. This is important as the provisions of the IHR (2005) are currently being reviewed at the global level while there have also been significant changes to Azerbaijan's health system in recent years.



Strengths

- The IHR (2005) was adopted into the law of Azerbaijan in 2007 by an Order of the Cabinet of Ministers.
- A National Action Plan on IHR implementation plan was adopted in 2007 and subsequently implemented.
- A significant number of programmes to improve public health and strengthen preparedness have been adopted under the Law on Public Health and more recent reforms, to further strengthen health service provision.

Challenges

- Azerbaijan's National Action Plan on IHR implementation from 2007 has not been reviewed or updated.
- Roles, responsibilities and resources for IHR implementation across government and how these are coordinated for optimal impact, are not as clear as they could be.

Recommendations for priority actions

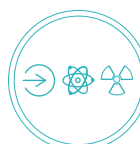
- Adopt a legal instrument giving a clear multisectoral cross-government mandate to the National IHR Focal Point (NFP) and sectors and agencies involved in IHR implementation. This mandate should ensure the fulfilment of the required functions of the IHR NFP and enable multisectoral collaboration and cross-government cooperation needed for full and effective IHR implementation.
- Create a roster of IHR duty officers to advance the required functions of the IHR NFP outlined in the IHR, including to ensure its accessibility at all times (24 hours a day, seven days a week, 365 days a year) for communication with the WHO IHR Contact Point.
- Establish a multisectoral committee with overarching authority to coordinate IHR implementation at national level. This should be chaired by the IHR NFP in the Ministry of Health and include focal points designated by other ministries and agencies involved in IHR implementation.
- Develop, adopt and implement a costed national plan on IHR implementation, to be developed by a multisectoral committee responsible for IHR implementation.
- Review resources available to the IHR NFP function to ensure it has the human resources, IT-resources and financial resources needed to ensure fulfilment of its functions, including strengthening engagement with all IHR implementing sectors.

P4. Antimicrobial resistance (AMR)

Introduction

Bacteria and other microbes evolve in response to their environment and inevitably develop mechanisms to resist being killed by antimicrobial agents. For many decades, the problem was manageable as the growth of resistance was slow and the pharmaceutical industry continued to create new antibiotics.

Over the past decade; however, this problem has become a crisis. AMR is evolving at an alarming rate and is outpacing the development of new countermeasures capable of thwarting infections in humans. This situation threatens patient care, economic growth, public health, agriculture, economic security and national security.



Target

A functional system in place for the national response to combat AMR with a One Health approach, including:

- Multisectoral work spanning human, animal, crops, food safety and environmental aspects. This comprises developing and implementing a national action plan to combat AMR, consistent with the Global Action Plan (GAP) on AMR.¹
- Surveillance capacity for AMR and antimicrobial use at national level, following and using internationally agreed systems such as the WHO Global Antimicrobial Resistance Surveillance System (GLASS) and the WOAHA global database on use of antimicrobial agents in animals.
- Prevention of AMR in health-care facilities, food production and the community, through IPC measures.
- Ensuring appropriate use of antimicrobials, including assuring quality of available medicines, conservation of existing treatments and access to appropriate antimicrobials when needed, while reducing inappropriate use.

Level of capabilities

Azerbaijan has been dedicating a significant amount of resources and attention to the topic of AMR over the past years, with the establishment of a multisectoral working group on IPC as a good example of this.

By the time of the JEE evaluation, an important structural gap was that the AMR National Action Plan had not been formally approved and endorsed. Once the AMR National Action Plan is fully approved and a list of MDROs is established, Azerbaijan will have two additional strong pillars to keep building upon the efforts to control AMR.

From an integrated One Health perspective, further efforts need to focus on the improvement of and implementation strengthening of policies for the phasing out on the use of antimicrobials in animals for growth promotion purposes and increased collection and sharing of data on AMR (including in the environment) and antimicrobial use (AMU) in plant production.

¹ <https://www.who.int/publications/i/item/9789241509763>.

Indicators and scores

P4.1. Effective multisectoral coordination on AMR and the national action plan: **score 3**

Strengths

- In 2022 a Multi sectorial working group on IPC was established based on a decree by the cabinet of ministers. This group have been working on developing the national IPC strategy which involves coordination between TABIB, Ministry of Health, the Food Safety Institute under others and outlines the division of labour among these different institutes. The national plan has not yet been approved because of delays with restructuring which happened in 2019 followed by the COVID-19 pandemic. Cooperation with international organizations have been critical including with WHO.
- (IPC committees are established in all hospitals and the control of AMR is included in the objectives of these committees.

Challenges

- National Action Plan on AMR has not been formally approved.

P4.2. AMR surveillance: **score 2**

Strengths

- Azerbaijan is in the process of establishing a national reference laboratory for AMR and WHO is supporting this process with equipment.
- Three national laboratories participate in the WHO external quality assurance scheme annually – one under TABIB and two under the Ministry of Health. This has been ongoing for 8 years.

Challenges

- Insufficient microbiology laboratory capacity.
- Hospitals lack microbiology labs.
- Insufficient surveillance of HAI.
- No genomic sequencing capacity for characterizing resistance mutations.

P4.3. Prevention of MDRO transmission in health-care facilities: **score 1**

Once the list of MDROs has been developed, the country will be able to move to a level 2.

Strengths

- Several IPC procedures (including hand hygiene, isolation precautions, decontamination, disinfection and sterilization of medical instruments) have been prepared and distributed to the hospitals which will play an important role in prevention of MDRs.

Challenges

- No genomic data are available on resistance mechanisms and the country does not have an existing relationship with the Super reference lab to refer samples for genetic characterization.
- A list of MDROs has not been established.

P4.4. Optimize use of antimicrobial medicines in human health: **score 3**

Strengths

- Use of antimicrobials is tracked by sales not by use data and this is reported to WHO annually.
- The IPC committee is making efforts to promote the effective use of antibiotics via, for example, the antimicrobial awareness week in November. In previous years they have held roundtable discussions and press conferences and place posters based on WHO communication materials in public spaces and public transport, to increase public awareness around the appropriate use of antibiotics.
- There is a list of antibiotics authorized, ranked in a way, aligned with the WHO AWaRe list.
- In recent years surveys on antibiotic use have shown improvements, where antibiotics used under prescription increased from 60% in 2019 to 80% in 2022. There is a law which states that antibiotics should only be sold under prescription however this is not well enforced as many pharmacists are private and not under the jurisdiction of the Ministry of Health. A rational use of antibiotics clinical protocol has been developed for doctors and brochures have been published on the Ministry of Health website.
- Video developed to raise awareness on the importance of AMR and appropriate use of antibiotics, across sectors.

Challenges

- Law requiring use of antibiotics under prescription is not widely enforced; people can access antibiotics and private pharmacists without prescription.
- Ordering of antibiotics on the Internet.

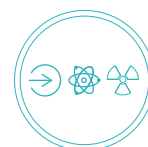
P4.5. Optimize use of antimicrobial medicines in human and animal health and agriculture: **score 3**

Strengths

- National legislation does cover aspects of import, export, marketing authorization, control of safety, quality, efficacy and distribution of antimicrobial veterinary products.

Challenges

- Field implementation of growth promotion ban legislation.



Recommendations for priority actions

- Expand the AMR multisectoral working group to include a broader range of stakeholders across the human, animal, plant and environment sectors.
- Update list of priority multidrug resistant organisms (MDRO).
- Establish a mechanism/system to share AMR/AMU data with relevant international platforms such as CAESAR/GLASS and InFARM, in a regular and timely manner.
- Designate and operationalize a national reference laboratory and standardize existing methodologies.
- Formally approve the AMR National Action Plan.
- Explore opportunities to promote better sharing of AMR/AMU data across human, animal, plant and environment sectors.
- Enhance multisectoral collaboration and involvement through the one health approach by establish mechanisms to involve the Ministry of Ecology in discussions at the national and regional levels on AMR, as well as in related decision-making processes.

P5. Zoonotic disease

Introduction

Zoonotic diseases are communicable diseases that can spread between animals and humans. These diseases are caused by viruses, bacteria, parasites and fungi carried by animals, insects or inanimate vectors that aid in its transmission. Approximately 75% of recently emerging infectious diseases affecting humans are of animal origin; and approximately 60% of all human pathogens are zoonotic.

Target

Functional multisectoral, multidisciplinary mechanisms, policies, systems and practices are in place to minimize the transmission of zoonotic diseases from animals to human populations.

Level of capabilities

The main authority responsible for minimizing transmission of zoonotic diseases from animals to human populations is the Food Safety Agency (AFSA), which came into force in July 2018. Azerbaijan has a list of prioritized zoonotic diseases, but this list was not provided to the external JEE team. The electronic surveillance system (EIDSS) enables both Ministry of Health and the organizations under its mandate (for example the Republican Centre for Hygiene and Epidemiology) as well as AFSA (the responsible agency for both food safety and animal health) to access the system. Therefore, human cases of a zoonotic disease can be seen both by public health authorities as well as by animal health authorities, at both the national and regional levels. This also applies to detected cases of zoonotic pathogens in animals. Most human cases of a zoonotic disease appear to be sporadic, but each one is jointly investigated by public health and animal health authorities at the district level. Assistance can be requested from the national level to support these joint investigations and there is a multisectoral plan in place for a coordinated response for rabies. A plan for avian influenza has also been developed.

There are regular cases of zoonotic diseases in the country (for example rabies) and the response has been reported to be timely and efficient. The roles of public health and animal health sectors are clearly defined and there are standard operating procedures in place for the management of zoonotic diseases.

National plans for breeding practices have been adopted according to WOA standards. At the farm level, HACCP systems for large, middle and small farms are to be implemented within the next 2, four and 6 years, respectively. AFSA has also adopted guidelines for best practices in slaughterhouses, in accordance with international standards.

A clear strength is the multisectoral electronic surveillance system allowing for immediate information sharing between the public health and the animal health sectors and a coordinated response. In addition, the laboratory system on clinical human cases as well as animal diseases covers the entire country. On the animal health side, there are mobile laboratories allowing for active screening programmes in the field. However, a challenge is that 80% of the animals are kept by small farms, where the implementation of good breeding practices is more challenging.

During the JEE, the environmental health sector was not evaluated as there were no representatives present.

Indicators and scores

P5.1. Surveillance of zoonotic diseases: score 4

Strengths

- There is a prioritized list of zoonotic diseases, including both endemic and emerging diseases, which has been approved by the Cabinet of Ministers.
- Azerbaijan has the capacity to detect the diseases at both the national and intermediate levels.
- There is a multisectoral electronic surveillance system in place for all zoonotic diseases, allowing for a joint and coordinated response to zoonotic diseases at the national, regional and local levels.
- The multisectoral electronic surveillance system is officially in use at the national and intermediate levels since 2010 and sufficient experience with the system and a timely response exists.
- A monthly serosurvey is conducted in backyard poultry by AFSA and other relevant agencies.

Challenges

- Risk mapping mechanisms on animal diseases in the GIS could be improved.

P5.2. Responding to zoonotic diseases: score 4

Strengths

- Azerbaijan is experienced in the coordinated multisectoral response to zoonotic diseases.
- The roles and responsibilities are clearly defined.
- A simulation exercise has been performed in November 2022.
- Azerbaijan has legal provisions for compensating farmers when animals are culled as a result of disease control measures.

Challenges

- Azerbaijan identified the need for more advanced standard operating procedures for a joint response to zoonotic diseases.

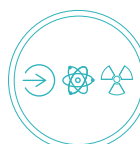
P5.3. Sanitary animal production practices: score 3

Strengths

- A national plan for good practices in animal breeding and sanitary practices according to WOA standards has been adopted.
- Azerbaijan has a regulatory framework in place for the inspection of livestock.
- Azerbaijan has an identification and registration system for farms and their animals.
- HACCP plans have been developed and are in the process of being implemented at the farm level for animal breeding within the next 2–6 years.

Challenges

- Many animals are kept by small farms, which poses challenges in registering and tracking animals as well as implementing best practices for breeding.



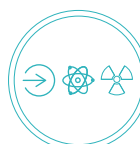
Recommendations for priority actions

- Review and update standard operating procedures for the joint, multisectoral response to zoonotic diseases.
- Annually assess the coordinated, multisectoral surveillance and including the involvement of external experts.
- Increase frequency of serological screening investigations to detect zoonotic infections, (e.g. avian flu).
- Improve risk mapping mechanisms on animal diseases in the existing geographical information system (GIS) system.
- Accelerate the ongoing implementation of the HACCP systems on farms.
- Increase frequency of serological screening investigations to detect zoonotic infections.

P6. Food safety

Introduction

Food- and waterborne diarrhoeal diseases are leading causes of illness and death, particularly in less developed countries. The rapid globalization of food production and trade has increased the potential likelihood of international incidents involving contaminated food. The identification of the source of an outbreak and its containment is critical for control. Risk management capacity with regard to control throughout the food chain continuum must be developed. If epidemiological analysis identifies food as the source of an event, based on a risk assessment, suitable risk management options that ensure the prevention of human cases (or further cases) need to be put in place.



Target

A functional system is in place for surveillance and response capacity of States Parties for foodborne disease and food contamination risks or events with effective communication and collaboration among the sectors responsible for food safety.

Level of capabilities

Multiple agencies (AFSA, Ministry of Health, Ministry of Agriculture and TABIB) are engaged in securing food safety, particularly in animal origin food items including processing food.

The Food Safety Agency of The Republic of Azerbaijan (AFSA) was established in 2018, while the INFOSAN focal point was established in 2019.

A new legal framework for food safety was recently approved (Law Of The Republic Of Azerbaijan "On Food Safety" No. 523-VIQ dated 5 May 2022) and the related secondary legislation acts were developed but are pending full approval. The current surveillance activities can fit within event-based surveillance (EBS) but it is limited to specific health events.

Slaughterhouses in Azerbaijan are owned by entrepreneurs. A slaughter meat inspection programme in compliance with international standards is in place but is limited in number in some regions. Slaughter inspection is regulated by law "On veterinary" No. 922-IIQ (31 May 2005), Decision "On the approval of some normative legal acts related to veterinary medicine in the Republic of Azerbaijan" No. 156 of the Cabinet of Ministers of the Republic of Azerbaijan (5 October 2007) and by Decision No. 66 of the Cabinet of Ministers of the Republic of Azerbaijan "On the approval of some normative legal acts related to veterinary medicine in the Republic of Azerbaijan" (16 April 2007).

Indicators and scores

P6.1. Surveillance of foodborne diseases and contamination: **score 3**

Strengths

- Regulation on investigation of foodborne poisoning cases has been developed by AFSA and was approved by three Agencies (AFSA, Ministry of Health, TABIB).

Challenges

- A structured risk assessment of acute foodborne events needs to be developed.
- Limited engagement of multiple sectors in addressing health events related to food source.

P6.2. Response and management of food safety emergencies: **score 4**

As per the available information, the national and international experts agreed that score 4 will be assigned since a legal framework has been approved and the team is working on its implementation.

Strengths

- The responsible team is working on the implementation of the approved legal framework.
- Risk communication plan including relevant actions has been developed and approved.

Challenges

- Supporting actions are in need to be taken to develop and implement a reliable plan to support the legal framework, such as a risk analysis framework.

Recommendations for priority actions

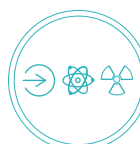
- Strengthen coordination and streamline the flow of information and data among the three relevant agencies with the aim to build a reliable and comprehensive surveillance system for 3–5 top priority of foodborne diseases, as a model for the planning of a long-term integrated surveillance system.
- Strengthen the contingency plan for investigation of a food related illness with the ability to respond to such illness in a timely fashion.
- Develop and implement a training programme on crisis management for relevant staff members that includes curriculum developments and exercises/case scenarios.
- Strengthen event-based (including epidemic intelligence from open source) and community-based surveillance (via food producing and processing companies).

P7. Biosafety and biosecurity

Introduction

It is vital to work with pathogens in the laboratory to ensure that the global community possesses a robust set of tools – such as drugs, diagnostics and vaccines – to counter the ever-evolving threat of infectious diseases.

Research with infectious agents is critical for the development and availability of public health and medical tools that are needed to detect, diagnose, recognize and respond to outbreaks of infectious diseases of both natural and deliberate origin. At the same time, the expansion of infrastructure and resources dedicated to work with infectious agents have raised concerns regarding the need to ensure proper biosafety and biosecurity to protect public health workers, researchers and the community. Biosecurity is important in order to secure infectious agents against those who would deliberately misuse them to harm people, animals, plants or the environment.



Target

A whole-of-government multisectoral national biosafety and biosecurity system with high-consequence biological agents identified, held, secured and monitored in a minimal number of facilities according to best practices, biological risk management training and educational outreach conducted to promote a shared culture of responsibility, reduce dual-use risks, mitigate biological proliferation and deliberate use threats and ensure safe transfer of biological agents; and country-specific biosafety and biosecurity legislation, laboratory licensing and pathogen control measures in place as appropriate.

Level of capabilities

The national biosafety and biosecurity system for human, animal and agriculture facilities in Azerbaijan is a well-established and comprehensive system that plays a crucial role in safeguarding public health and promoting the safety and security of biological materials.

Azerbaijan has made significant progress in developing its national biosafety and biosecurity system for human, animal and agriculture facilities. The government has recognized the importance of biosafety and biosecurity in protecting public health, animal health and the environment and has implemented several measures to enhance the national biosafety and biosecurity system. One of the key achievements is the establishment of a legal and regulatory framework to govern biosafety and biosecurity.

In 2013 Azerbaijan passed the Law on Biosafety, which provides a comprehensive legal framework for the safe handling and use of biological materials in research, agriculture and other sectors. The country has established regulations and guidelines that govern the handling, storage and transport of biological materials, ensuring that these materials are used safely and securely. Additionally, the country has established a National Biosafety and Biosecurity Committee to oversee the implementation of the law and coordinate biosafety and biosecurity efforts across different sectors. The system employs a range of risk assessment tools and techniques to identify and assess potential risks associated with the handling of biological materials and ensures that appropriate measures are taken to mitigate risks and prevent the spread of infectious diseases.

Both the human and animal health National reference laboratories maintain an isolate archive of high-consequence biological agents stored at minus 80 degrees Celsius in restricted access facilities.

The government has also invested in capacity-building and training programmes to enhance the knowledge and skills of professionals working in biosafety and biosecurity. For example, a Biosafety Training and Research Centre was established to provide a range of courses and workshops on biosafety and biosecurity, including laboratory biosafety, biosecurity and risk assessment.

The national biosafety and biosecurity system also benefits from strong leadership and governance with established policies and regulations, ensuring that it operates according to international best practices. The government have also established close collaborations with international organizations, allowing for knowledge-sharing and skills transfer, which have helped to strengthen Azerbaijan's biosafety and biosecurity system.

However, despite these achievements, there are still several challenges that need to be addressed to further strengthen the system in Azerbaijan. There is the need to improve the enforcement of biosafety and biosecurity regulations and to improve the awareness and understanding of biosafety and biosecurity among diverse stakeholders in different sectors. There is also a need to strengthen the monitoring mechanisms to ensure that regulations and guidelines are followed consistently across all facilities. The system requires continued investment and improvement to ensure a robust and effective biosafety and biosecurity system can be sustained.

Indicators and scores

P7.1. Whole-of-government biosafety and biosecurity system in place for all sectors (including human, animal and agriculture facilities): score 3

The strengths include a comprehensive national regulatory framework, adequate funding, designated biosafety officers and established transport and waste management procedures. High-consequence agents are consolidated into a minimum number of facilities and there is an electronic system for information transfer and reporting. However, challenges include the lack of Biosafety Level three laboratories in reference facilities and the absence of a specific vaccination policy for laboratory personnel.

Strengths

- There is a comprehensive national biosafety and biosecurity regulatory framework being enacted.
- There is adequate funding to support biosafety and biosecurity programmes and initiatives, as well as their oversight.
- Work on diagnosis of particularly dangerous infections at the Ministry of Health is carried out in Biosafety level two laboratories.
- Biosafety officers have been designated and site-specific biosafety and biosecurity management programmes and supporting documents (guidelines, manuals, standard operating procedures, job aides, records) are available.
- Biological safety cabinets are certified annually and can be serviced and certified locally by trained bio-engineers.
- Procedures for a safe and secure transport of culture, specimens, samples and other contaminated materials are established and followed. Sample collection and transport is carried out in compliance with biosafety and biosecurity regulations.
- Waste management guidelines are implemented locally.
- Isolates of high-consequence agents are consolidated into a minimum number of facilities at national level. There is an updated record and inventory of high consequence biological agents within facilities that store or process high-consequence biological agents and access is limited to authorized personnel.

- There is an electronic system for transferring information and receiving results. Access to sensitive information (such as inventory of agents and toxins) is controlled by adequate policies and procedures. Information received in the laboratories is entered to the laboratory information management systems which issue daily, weekly and monthly reports to authorized personnel.
- The laboratory equipment is regularly maintained and all equipment is calibrated every 6 months by expert engineers. There is a contract with a contractor for the removal and destruction of used/problematic equipment.
- A National working group has been established for biosafety and biosecurity and has developed a 10-year road map.
- Annual safety audits are performed at laboratory facilities.

Challenges

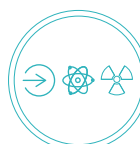
- There are no Biosafety Level three laboratories within human or animal sector reference laboratories.
- There is currently no specific vaccination policy (pre-exposure prophylaxis) for laboratory personnel (hepatitis B and other relevant diseases) but this is planned.
- All hospitals do not have incinerators and outsource waste management to external contractors.

P7.2. Biosafety and biosecurity training and practices in all relevant sectors (including human, animal and agriculture): **score 3**

The strengths include comprehensive training for staff at all facilities, including those working with high-consequence agents, modernized training using educational courses and participation in seminars and simulation exercises. All laboratory personnel undergo regular training and re-certification. Challenges include the lack of biosafety training for all medical professionals, as it is currently only integrated into Medical and Veterinary curricula in academic institutions.

Strengths

- Training on biosafety and biosecurity has been provided to staff at all facilities, including those that maintain or work with high-consequence agents.
- Modernized training is organized using educational courses at the Ministry of Education and Culture.
- Experts periodically participate in seminars, webinars, conferences and round table meetings to exchange experience.
- There is induction and refresher training for all laboratory staff on biosafety and biosecurity and employees engaged in laboratory diagnostics undergo regular training.
- All laboratory personnel undergo biosafety training for their position and re-certification every 5 years, which is documented.
- Biosafety officers have been designated at national laboratories to oversee biosafety and biosecurity matters.
- Waste management SOPs are implemented at facility level.
- Food and veterinary laboratories have incinerators on site.
- Table-top simulation exercises are held and the laboratory personnel participates in a broad range of simulation exercises organized in Azerbaijan
- In 2022 WHO conducted trainings in Azerbaijan on the use of personal protective equipment.
- Training and support have been provided by the United States Defense Threat Reduction Agency (DTRA).



Challenges

- Academic institutions have biosafety training programmes integrated in medical and veterinary curricula but not in training programmes for all medical professionals.
- Risk assessments need to be performed for cyber-attacks and risk mitigation measures put in place.
- All standard operating procedures and guidelines need to be updated to integrate a risk and evidence-informed approach in line WHO biosafety manual version 4.

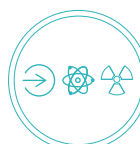
Recommendations for priority actions

- Establish Biosafety Level three laboratories within human and animal sector reference laboratories and ensure sustainable funding is available to maintain facilities.
- Update and revise all laboratory guidelines and standard operating procedures taking a risk- and evidence-informed approach, in line with the WHO Biosafety Manual version four (2020).
- Establish sustainable in-service biosafety and biosecurity training programmes using a One Health, training-of-trainers approach and leveraging online platforms.
- Integrate biosafety and biosecurity training into academic training programmes for all medical professionals, including for laboratory technicians, biologists, professionals managing specimens of human, animal and environmental origin and others.

P8. Immunization

Introduction

Immunizations are estimated to prevent more than two million deaths a year globally. Immunization is one of the most successful global health interventions and cost-effective ways to save lives and prevent disease. Measles immunization is emphasized because it is widely recognized as a proxy indicator for overall immunization against vaccine preventable diseases. Countries will also identify and target immunization to populations at risk of other epidemic-prone vaccine preventable diseases of national importance (e.g. cholera, Japanese encephalitis, meningococcal disease, typhoid and yellow fever). Diseases that are transferable from cattle to humans, such as anthrax and rabies, are also included.



Target

A national vaccine delivery system – with nationwide reach, effective distribution, easy access for marginalized populations, adequate cold chain and ongoing quality control – that is able to respond to new disease threats.

Level of capabilities

The National Immunization Program (Program on Immunoprophylaxis of communicable diseases) (NIP) was approved by the Cabinet of Ministers in 2006 and is since 2016 renewed every 4 years. Ministry of Health is financing of the National Immunization Program at national level and annually, the national immunization schedule serves as the basis for budget allocation and ensures sustainable financing, the procurement of vaccines and financing of needed innovations.

The NIP is centrally managed by the Ministry of Health which coordinates all resources and activities. Until 2010, the Ministry of Health was also in charge of the implementation of the population immunization programme. Ministry of Health manage the NIP organization and its methodological work, including monitoring of the implementation of the legal regulations during immunization activities in the country. The Republican Centre for Epidemiology and Hygiene supervises the organization and implementation of immunization activities through the network of city and district centres.

In 2021 immunization coverage against measles (MCV1) in Azerbaijan was 93% (WHO and UNICEF estimates). Immunization against measles in Azerbaijan increased from 66% in 2002 to 93% in 2021, growing at an average annual rate of 1.99%. These data indicate an increasing trend in coverage over time and the trajectory of progress, plans and capacities are in place to achieve 95% coverage by 2030. However, in the last year due to the spread of COVID-19, a decrease in the national vaccination rate has been recorded.

The overall target coverage across all vaccines is 92% and mandatory vaccines in the national immunization programme includes BCG and vaccines against diphtheria, tetanus, pertussis, polio, measles, mumps, rubella, hepatitis B and influenza. Electronic monitoring of vaccine coverage takes place in real-time. Given the effectiveness of real-time monitoring by the Institute of Public Health, particularly during and after the COVID-19 vaccination campaigns, special attention is given to communication covering immunization perceptions, including although media promotion of vaccination. In particular: DTP1 coverage at national level (2021) is 92%; DTP3 coverage at national level (2021) 89% and MCV1 coverage at national level (2021) is 93%. In regard to geographical equity, the drop out from DTP1 to last routine dose of MCV at national level (2021) is 2% and the DTP3 coverage in the 20% of districts with lowest coverage (2021) is 70%. In 2022 the COVID-19 vaccine coverage was around 70%.

In 2018 there was a measles outbreak in Baku, mainly due to imported cases from neighbouring countries. More than 100 cases were detected and effectively managed by local authorities.

Azerbaijan has a nationwide vaccine delivery system (maintaining cold chain) in all the districts of the country and has a functional vaccine procurement system in place. The system has been funded with support from the European Union (EU) and WHO. Azerbaijan constitutionally recognizes full entitlement and access to health services to all the people in the Country (Article 25.4 of the Azerbaijan's Constitution), providing vaccination free of charge for people on the move, minorities and internally displaced people (IDPs) through culturally sensitive systems and targeted immunization programmes. Ministry of Health stated that vaccine delivery has been tested through various nationwide vaccine campaigns. At the level of the Ministry of Health and the Republican Centre for Epidemiology and Hygiene, a functional and effective vaccine procurement system is in place also at district level, covering the whole country. Effective vaccine forecasting results in no stock-outs at regional or local levels.

- Azerbaijan created a National Plan for Mass Vaccination Response to Outbreaks of Vaccine-Preventable Diseases (16 Jan 2021) which served as the basis for Azerbaijan's 2021/2022 vaccination strategy for COVID-19. At the legislative level, the plan is applicable for other potential epidemics caused by VPDs. The Plan includes:
 - » priority target groups (1. health workers, 2. 65 years and older, 3. medical care staff involved in anti-epidemic measures);
 - » guidelines for regulatory approval and acquisition of new and experimental vaccines;
 - » guidelines for cold chain adherence; and
 - » relevant standard operating procedures that have been shared and disseminated during trainings for vaccination staff across the country.

In Azerbaijan's response to COVID-19, the National plan served as the foundation for the provision of almost 14 million COVID-19 vaccine doses (with the first dose given on 18 January 2021), through 145 nationwide vaccination points. The plan was implemented at all levels (national, intermediate and local) and was made possible through direct communication with vaccine companies and the support of international bodies and programmes, such as the COVID-19 Vaccines Global Access (COVAX). The COVID-19 vaccination campaign started with SinoVac in January 2021 and continued with Sputnik, Vaxzevria and Pfizer. Tailored immunization activities have been carried out to reach workers and hard to reach population (for example mobile vaccination teams in Baku).

Note: the indicators of this Technical Area focus on human health. Animal health has not been extensively covered and therefore not taken into account in scoring.

Indicators and scores

P8.1. Vaccine coverage (measles) as part of national programme: **score 5**

Strengths

- Consolidated high vaccination coverage in all the districts of the country. Before the COVID-19 epidemic, immunization coverage for MCV1 has been above 95% (2010–2019), reaching up to 98/99% coverage.
- Monitoring takes place through a National Electronic Immunizations Registry and there is routine analysis and monitoring of coverage at national level.
- Public health care institutions have a good networking system and there is strong institutional commitment and consistent institutional communication and cooperation.
- A functional pharmacovigilance system has been put in place
- A clear Ministry of Health leadership in support of immunization activities.

- Vaccines are provided free of charge and available for all populations, including hard-to-reach communities.

Challenges

- To ensure sustainable and long-term quality to the system, considering the effective results already obtained.
- To maintain the national polio-free status and ensuring the financial stability of the national immunization programme.
- To extend vaccination provision (for example against rotavirus and papillomavirus).

P8.2. National vaccine access and delivery: score 5

Strengths

- An effective centralized approach is in place and includes a well-organized national vaccine storage system, central procurement and a very well-structured approach to vaccine access and delivery.
- An annual vaccine procurement programme is in place.
- Cold chain equipment inventory and registration system are in place in all the districts of the country since 2022, through support from WHO, providing electronic registration of the cold chain. This initiative is sustainable with a specific line of funding supported by the European Union.
- Temperature monitoring has been improved for transport and storage at health care centres, as well as a system to monitor the quality of vials.
- Azerbaijan has developed and disseminated a national Cold Chain Guide for all the vaccination centres of the country.

Challenges

- Long-term sustainability of the system due to the shortage of health-care workers in the rural areas.
- Sharing of effective approaches used in the fields of both of human health and animal health.

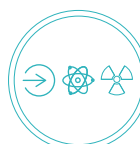
P8.3. Mass vaccination for epidemics of VPDs: score 4

Strengths

- A National Plan for Mass Vaccination Response to Outbreaks of VPDs was implemented for COVID-19 in 2021.
- The national plan includes guidelines for regulatory approval and acquisition of new and experimental vaccines.
- The national plan for COVID-19 vaccination is applicable to other mass vaccination responses according to the current law.
- Related standard operating procedures have been developed and approved at the highest level of health management and then disseminated.
- Tailored immunization programmes have been used during the COVID-19 mass vaccination campaign for hard-to-reach population.
- Sentiment analysis related to the immunization campaign has been conducted.

Challenges

- The COVID-19 mass vaccination campaign was effective and well-structured because of the know-how already present in the country. The challenge is to make the improvement obtained during this campaign, including in data management, community engagement, qualitative analysis, as part of the regular vaccination activities in the country.



Recommendations for priority actions

- All the scores and the considerations presented above focus only on human health. An integrated approach aimed at adding value to a well-structured and effective system is important to close the gap between the human and animal health sectors in line with the One Health approach.
- Improve the interoperability between COVID-19 data management system and the national electronic vaccination data management system to enhance Azerbaijan's digital systems for promoting and performing vaccinations and real-time data analysis.
- Utilize and build on existing mechanisms for progressive introduction of new vaccines in the national immunization programme on the basis of substantiated epidemiological evaluations, in line with the technical opinion of the National Technical Consultative Experts Group on Immunization.
- Improve activities such as vaccination sentiment analysis, community engagement and develop tailored immunization programmes to contrast vaccine hesitancy.

Detect



D1. National laboratory System

Introduction

Public health laboratories provide essential services including disease and outbreak detection, emergency response, environmental monitoring and disease surveillance. State and local public health laboratories can serve as a focal point for a national system, through their core functions for human, veterinary and food safety including disease prevention, control and surveillance; integrated data management; reference and specialized testing; laboratory oversight; emergency response; public health research; training and education; and partnerships and communication.

Target

Surveillance with a national laboratory system, including all relevant sectors,⁵⁵ particularly human and animal health and effective modern⁵⁶ point-of-care and laboratory-based diagnostics.

Level of capabilities

The national laboratory system of Azerbaijan for public health and animal disease laboratories is an essential component of the country's health care infrastructure and plays a crucial role in protecting public health and ensuring the safety of the country's animal population. Azerbaijan has a well-developed system of human and animal disease laboratories. These laboratories are equipped with modern equipment and staffed by skilled personnel. The central laboratories in both the public health and veterinary systems are located in Baku and provide diagnostic services for the entire country. Regional and district laboratories are located throughout Azerbaijan and provide diagnostic services for their respective areas. The system comprises various laboratory facilities under the governance of Ministry of Health, TABIB and the Ministry of Agriculture, including the Centre for Especially Dangerous Pathogens, the National Food Safety Agency (NFSA), State Veterinary Control Service and Central Veterinary Laboratory. The government has established policies and regulations that govern the laboratory system, ensuring it operates according to international best practices, including the Instruction on Reliable Laboratory Practice (ELT) 3.11 of "Rules for conducting scientific research, pre-clinical research and clinical trials of medicinal products" which was approved by the Cabinet of Ministers in 2010.

In 2019 a working group to standardize laboratories in medical institutions in Azerbaijan was established. The group is responsible for providing feedback on laboratory services, methods, equipment calibration, operating rules and other necessary procedures, preparing a "Biosecurity" plan and recommending what equipment to acquire and operate in the future.

The Ministry of Agriculture has established a network of veterinary laboratories throughout the country, which has improved the detection and control of animal diseases. In addition, the National Food Safety Agency has implemented a food safety programme that includes laboratory testing and monitoring of food products, which has helped to ensure the safety and quality of food in Azerbaijan.

The national laboratory system for human, animal and agriculture sectors in Azerbaijan has undergone significant developments in recent years with an increased emphasis on quality assurance and quality control measures. The government has invested in improving laboratory facilities, equipment and training

programmes, which has resulted in a more reliable and efficient system for testing and analysis. The laboratory network has developed a joint list of priority zoonotic diseases and has good diagnostic capacities for all endemic and priority pathogens in both human and animal health laboratories. Specimens can be shipped to the national reference laboratories within 24–48 hours from most of the country. The laboratories are well-equipped with modern equipment and technologies and staffed by highly trained professionals, enabling them to conduct a wide range of diagnostic tests ensuring high-quality results and efficient testing processes.

The national reference laboratories are well equipped to perform testing for most pathogens of public health importance, including respiratory pathogens such as SARS-CoV2, influenza, Respiratory Syncytial Virus (RSV), enteric pathogens such as Salmonella, Vibrio cholerae, Rota virus and others and vector-borne pathogens such as malaria, Crimean Congo Haemorrhagic Fever (CCHF), as well as other important communicable diseases such as HIV, hepatitis B and C and tuberculosis (TB).

During the COVID-19 pandemic, the national laboratory system played a significant role in testing, tracing and managing the outbreak. The system was able to quickly mobilize and ramp up testing capabilities to support the country's response to the pandemic. Additionally, the laboratory system has also played a crucial role in detecting and monitoring outbreaks of animal diseases, such as African swine fever, which have significant economic impacts on the country.

The government has fostered close collaborations with international organizations, such as the WHO and the United Nations Food and Agriculture Organization (FAO), to enhance their knowledge and skills, improve the quality of their services and share best practices.

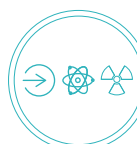
However, there are still some challenges facing the national laboratory system. One of the main issues is the lack of a centralized National Reference Laboratory. Additionally, there is a need for greater integration and collaboration between the various laboratories and government agencies responsible for the human, animal and agriculture sectors. A comprehensive database for tracking laboratory testing results is needed to monitor disease outbreaks and track the effectiveness of vaccination programmes.

The national laboratory at the Especially Dangerous Pathogens Institute which was built by the DTRA approximately 5 years ago acts as a primary diagnostic centre for COVID-19 and staff still work three shifts with testing available 24/7. The virology laboratory also acts as a primary diagnostic centre for influenza sentinel surveillance samples. The laboratory provides reference services for other priority pathogens such as anthrax, yellow fever, Ebola and the measles and rubella laboratory is accredited by WHO. Polio testing is not conducted, and samples are referred to the Russian Federation for reference services.

An Illumina MiSeq instrument is being procured through global fund funding to perform next generation sequencing (NGS) and will be installed at the National reference Laboratory in the Especially Dangerous Pathogens Institute. Staff have attended training on NGS, bioinformatics and molecular epidemiology provided by WHO country office in Ankara, Türkiye.

There is a need for better integration between public health and animal health laboratory systems, the development of a comprehensive laboratory information management system and increased investment in research and development. There is also a need to ensure the sustainability of the laboratory system by strengthening the capacity of laboratory staff and increasing the availability of essential laboratory supplies and equipment. Several promising initiatives are planned but need sustained investment and support for implementation.

The laboratory system's investments in workforce training and modern equipment have helped to establish a strong foundation for continued growth and development. By investing in technology and workforce development, improving collaboration between different agencies and implementing centralized databases for tracking laboratory testing results, the system can become even more effective and efficient in promoting the health and safety of the country's human, animal and agriculture sectors.



Indicators and scores

D1.1. Specimen referral and transport system: **score 4**

The national laboratory specimen referral and transport system in Azerbaijan is a well-established network of laboratories with an extensive transport network that ensures specimens are transported safely and securely to their respective laboratories. The system has established numerous laboratory facilities across the country, making it easier for patients to access diagnostic services. The system's strengths include reliable logistics, appropriate training for laboratory workers and the network is sustainable with national funding. The transport system operates 24/7 and employs strict protocols to ensure the integrity of specimens during transport. Samples are transported following the cold chain principle and ensuring proper biosafety rules are followed.

However, there is a need to strengthen the communication channels between laboratories to ensure that test results are communicated promptly. Although the lessons learned from COVID-19 regarding the submission and transportation of biological samples are valuable, it is important to apply these practices to other priority diseases by integrating sample referral and transport systems. There is also a delay in providing results when using an "outsourced" system to private laboratories.

Strengths

- A system is in place for transporting appropriate biological samples from the field to the relevant laboratory and is organized and prioritized based on specific diseases (for both human and animal).
- The central laboratory of Ministry of Health coordinates with licensed laboratories to ensure the submission of appropriate biological samples.
- The central veterinary laboratory of The Ministry of Agriculture, along with its regional laboratories, follows international standards of operation in the submission of appropriate samples for a list of diseases that threaten public health and the economy.
- Decentralization and expansion of molecular diagnostic laboratories was implemented during the COVID-19 pandemic alongside establishment of regional laboratories.
- An electronic sample registration system (PACKS system) operates nationally to track samples from field and regional level to national level and vice versa.
- SOPs and reliable logistics are available for sample management and transport.
- Appropriate training for laboratory workers on specimen transport.
- The specimen referral/transport network is sustainable with national funding.
- Strong cooperation with international organizations.

Challenges

- Valuable lessons learned from COVID-19 regarding the submission and transportation of biological samples need to be applied to other priority diseases.

D1.2. Laboratory quality system: **score 3**

For this indicator, the animal sector scored at level 4, as mandatory laboratory licensing is implemented and national and regional veterinary and food labs are accredited to the International Standards Organization's (ISO) standards however human health labs scored 3, making three the overall consensus score at national level.

The national laboratory quality management system of the Azerbaijan is a developing system that is dedicated to improving the accuracy and reliability of laboratory results by implementing standardized procedures and guidelines that promote quality and consistency across all laboratories. All laboratories across the country are licensed by Ministry of Health.

National and regional veterinary laboratories have been accredited by international bodies. The national measles laboratory has been accredited by WHO and all private laboratories used to outsource specimens have been accredited. However, the human health laboratories have not yet been accredited and this is an important priority.

One of the key strengths of the national laboratory quality management system is its comprehensive approach to quality control. The system employs a range of tools and techniques to monitor and assess laboratory performance, including proficiency testing, external quality assessment and internal audits.

The government has established policies and regulations that govern the laboratory system, ensuring that it operates according to international best practices. The system has also established close collaborations with international organizations, allowing for knowledge-sharing and skills transfer, which have helped to strengthen the country's laboratory system.

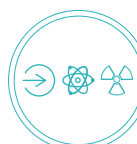
However, there is a need to improve documentation and reporting systems, invest in research and development and establish a national body for laboratory certification and accreditation. The country could greatly benefit from a certification process for its entire laboratory system, utilizing existing international standards and regular assessments using reliable reference laboratories recognized by WHO or a similar body. There is clearly capacity in the animal sector that can be leveraged to support the human laboratory sectors to strengthen overall capacities through collaboration and joint initiatives.

Strengths

- The importance of national laboratory quality standards is recognized by both the human and veterinary laboratory communities in the country for the efficient operation of laboratories.
- Veterinary laboratories are certified for their quality in specific tests for selected animal diseases, in compliance with international trade requirements.
- The veterinary laboratories of the Ministry of Agriculture are certified according to ISO standards
- Public health central and regional laboratories generate data that are integrated into the national surveillance system's core database (EDSS).
- Data generated from veterinary laboratories are integrated into the national disease reporting system.
- Quality control and standards are implemented in laboratories.
- A Working Group on "Standardization of laboratories in medical institutions" was established in 2019.
- National External Quality Assessment (EQA) programmes are in place for priority disease in both human and animal health sectors which achieve good results.
- Some laboratories are accredited for disease-specific testing by WHO (for example measles and HIV genotyping).
- Ministry of Health is the national body in charge of laboratory licensing and all laboratories are licensed.
- All laboratory staff are certified and undergo a process of recertification every 5 years.

Challenges

- Accreditation of human health laboratories according to international standards has not been achieved for most laboratories.
- Collaboration with international reference laboratories recognized by WHO or a similar body need to be expanded.
- There is no national body in charge of laboratory certification or accreditation (for example using of ISO 15 189).



D1.3. Laboratory testing capacity modalities: score 4

The laboratory system has the capacity to test for all endemic and priority diseases. National diagnostic algorithms have been aligned with international standards and there are agreements with some international laboratories for specialized testing. The laboratory system can perform nucleic acid amplification testing, bacterial culture with antimicrobial sensitivity testing with quality assurance process in place and has some basic sequencing capacity. Maintenance contracts are in place for key equipment and there is sufficient human resource expertise. However, challenges include limited application of genomic surveillance and the limitation of daily testing capacity.

Strengths

- Both public and animal health laboratories have the capacity to provide comprehensive diagnostic services for certain critical human and animal diseases.
- Several training sessions, supported by international agencies, have been organized to improve the diagnostic capabilities of both human and animal health laboratories for these selected diseases. There is a set of national diagnostic algorithms for laboratory testing for priority diseases that have been aligned with international standards.
- Significant molecular diagnostics capacity was implemented during the COVID-19 pandemic which can now be adapted and expanded for other priority and endemic disease testing
- Eleven priority diseases have been defined and are tested effectively across the tiered laboratory network.
- There are agreements with international laboratories for some specialized testing not available in the country (for example the TB supra-reference laboratory in Borstel, Germany).
- National laboratory algorithms for initial laboratory diagnosis of pulmonary tuberculosis and for monitoring the treatment of patients with drug-sensitive and drug resistant pulmonary tuberculosis are being implemented.
- Maintenance contracts are in place for key equipment and preventive maintenance is implemented regularly. Currently, most of the examinations are carried out in automatic or semi-automatic equipment.
- There is reportedly sufficient human resource expertise.

Challenges

- Genomic sequencing of pathogens, including whole genome sequencing (WGS), although recognized as essential for enhancing diagnostic accuracy and improving epidemiological investigations, is not widely available.
- There is a need to develop collaborations with international reference laboratories for referral of specimens for advanced techniques such as WGS.
- The number of samples received during the COVID-19 pandemic exceeded the laboratory's daily test capacity.
- There is no designated national influenza centre.
- In hospital laboratories, microbiology testing capacity is weak, which compromises IPC capacities and monitoring and control of AMR.
- Plans for repurposing COVID-19 testing capacity need to be developed and implemented to ensure sustainability of the investments made throughout the pandemic.

D1.4. Effective national diagnostic network: score 3

The consensus score for this indicator is 3, although the animal sector scored level 4.

The country has comprehensive diagnostic capabilities for most priority diseases and a tiered laboratory system, supported by training programmes and national diagnostic algorithms. The laboratories have electronic information management systems. However, the system is fragmented, lacking coordination and

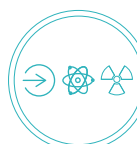
communication between different stakeholders. The country has diagnostic algorithms and national SOPs in place but has not developed strategies for tier-specific diagnostics for all priority diseases. The country also does not have strategies for conducting point-of-care/farm-based diagnostics and has a centralized distribution of reagents and a reliance on private labs and an "outsource" system for certain tests.

Strengths

- Laboratories are categorized by tiers and 80% of tests can be conducted at regional level.
- An electronic information management system is in place to store and share data.
- Diagnostic algorithms and national SOPs for diagnostics for infectious diseases have been developed.
- The National reference laboratories perform advanced molecular and serological testing for referred samples and for confirmation/re-confirmation of diagnosis.
- Polymerase chain reaction (PCR) laboratories were decentralized and expanded during the COVID-19 pandemic by establishing regional laboratories.
- A reliable logistics system for laboratory reagents and commodities is in place.
- The animal sector maintains three mobile labs that can be deployed as needed.

Challenges

- Testing strategies for tier-specific diagnostics for all 11 priority diseases have not been elaborated.
- The country does not have strategies of conducting point-of-care/farm-based diagnostics.
- Distribution of reagents is centralized.
- An "outsourcing" system is in place with private laboratories as currently, several types of examinations are not available in government laboratories and this requires significant financial costs and time.
- The "outsource" system experiences delay reporting results, which can take up to 10 days.



Recommendations for priority actions

- Expedite development of a multisectoral National laboratory strategic plan taking a One Health approach, including the following actions.
 - » Clearly define the tiered laboratory network for the public health laboratory system.
 - » Enhance multisectoral coordination and communication among all agencies and sectors involved in the laboratory system.
 - » Strengthen data linkage with the national surveillance system to enable informed public health action.
 - » Improve turn-around-times for results reporting from private laboratories for outsourced specimens.
- Centralize and strengthen the role and functionality of the National Public Health Reference Laboratories, including the following actions.
 - » Formally designate a WHO national influenza centre.
 - » Participate in the WOAHL laboratory twinning programme for veterinary laboratories.
 - » Enhance collaborations with international reference laboratories for priority pathogens.
 - » Achieve accreditation from internationally recognized accreditation bodies for National and Regional public health laboratories according to appropriate ISO standards.
 - » Improve the quality management systems of Regional and Clinical laboratories and develop microbiology testing capacity at hospital laboratories through a National and/or International mentoring programme.
 - » Implement and expand the use of genomic surveillance across public health through establishing a centralized sequencing laboratory and bioinformatics unit and developing a National genomic surveillance strategy.

D2. Surveillance

Introduction

The purpose of real-time surveillance is to advance the safety, security and resilience of the nation by leading an integrated surveillance effort that facilitates early warning and situational awareness of all IHR hazard-related events.

Target

Strengthened early warning surveillance systems that are able to detect events of significance for public health and health security; (2) improved communication and collaboration across sectors and between national, intermediate and primary public health response levels of authority regarding surveillance of events of public health significance; and (3) improved national and intermediate level capacity to analyse data. This could include epidemiological, clinical, laboratory, environmental testing, product safety and quality and bioinformatics data; and advancement in fulfilling the core capacity requirements for surveillance in accordance with the IHR.

Level of capabilities

Azerbaijan's government operates an electronic reporting surveillance system Electronic Integrated Disease Surveillance System (EIDSS) at both national and subnational level. The system was developed through cooperation with the DTRA and comprises approximately 50 notifiable conditions and includes suspect and probable (clinical) cases. Notifications are entered online by all Regional Centres for Hygiene and Epidemiology and medical facilities. Data are transferred for processing, storage and analysis to the central Republic Centre for Hygiene and Epidemiology in Baku. The system is multisectoral as detection of zoonotic pathogens is also entered into the system (for details please see section P5. Zoonotic disease).

According to order No.64 of the Law of the Republic of Azerbaijan on sanitary-epidemiological safety, there are 11 priority infectious infections (for example viral haemorrhagic fever, avian flu H5N1, cholera and rabies) whose diagnosis require direct notification to the Ministry of Health. EIDSS has built-in templates for reports that are used to generate monthly reports on diseases caused by infectious agents or parasites. This report is sent to the State Statistics Committee and also shared with public health officials at the subnational level. Furthermore, this report is shared with neighbouring countries, for example Georgia.

Because of the sheer volume of notifications, a separate database exists for COVID-19, which also includes data on vaccinations against COVID-19.

In the Ministry of Health, the media council is regularly monitoring the news for unusual events (for example disease outbreaks). If such an event is detected or suspected, Ministry of Health as the IHR NFP is immediately informed. Similarly, AFSA has dedicated staff members who monitor mass media to identify unusual events on the animal health side.

In October 2022, WHO conducted a 3-day system training workshop on EIOS.

A major strength of the electronic surveillance system is that it not only captures laboratory-confirmed cases, but also clinical cases, where an infectious origin is probable or suspected (based on the suspicion of the diagnosing physician). This potentially allows for detecting unusual events and outbreaks even before an etiological diagnosis is present. However, there are no statistical algorithms implemented that aid the identification of signals, which would be useful for the detection of outbreaks, particularly if they occur geographically dispersed.

Indicators and scores

D2.1. Early warning surveillance function: score 5

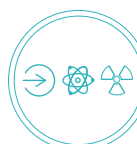
Strengths

- There is a list of 11 prioritized infectious diseases, which, when diagnosed, need to be reported immediately to the Ministry of Health.
- There is a list of conditions that are directly reported to Ministry of Health.
- A telephone hotline is operated 24/7. Ministry of Health in turn immediately notifies public health officers of the responsible district.
- Notifications are timely entered (within hours) into the electronic surveillance system.
- Laboratory results are integrated into the system.

Challenges

Not all the conditions listed in Annex 2 of the IHR (2005) that could constitute a public health emergency of international concern (PHEIC) are included in the list of prioritized infectious diseases in Azerbaijan (for example SARS and poliomyelitis).

- It is the understanding of Azerbaijan's surveillance experts that media screening conducted by the media council at the Ministry of Health and also by the dedicated staff at AFSA, constitute the entirety of the EBS measures.



D2.2. Event verification and investigation: score 4

Strengths

- Trained personnel at the district level are immediately deployed to verify and investigate an event.
- Assistance can be requested from the regional or national level.
- In case of a (suspected) zoonotic event, the investigation to verify and, if needed, investigate the event, is conducted jointly by the human and the animal health side.

Challenges

- Evaluation and updating the procedure is done on an "as needed" basis.

D2.3. Analysis and information sharing: score 5

Strengths

- Surveillance data are received almost in real-time (notifications have to be entered into the system within hours).
- Data are constantly assessed by epidemiologists at the Republican Centre for Hygiene and Epidemiology and also by public health officers in the responsible district.
- Templated reports can be produced by the electronic surveillance system.
- Monthly reports of diseases caused by infectious agents or parasites are sent to the State Statistics Committee and are also shared with regional and district level as well as with neighbouring countries (for example Georgia).
- Biannually, a 10–12 page long report is produced by the Republican Centre for Hygiene and Epidemiology, which includes an analysis of infectious disease and vaccinations for the Cabinet of Ministers.
- Reports are also produced on an ad-hoc basis in emergency situations (for example COVID-19).
- For analysis and reporting, there is a dedicated team within the Centre for Hygiene and Epidemiology.

Challenges

- Monthly routine reporting of infectious diseases relies on a template tabular format. It does not include a more detailed descriptive analysis, for example of trends in demographics.

Recommendations for priority actions

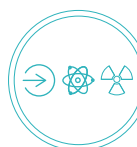
- Update the list of prioritized infectious diseases in compliance with Annex 2 of the IHR (2005).
- Conduct a multisectoral table-top exercise on early warning to evaluate the performance of the surveillance system to timely identify unusual events. The exercise should include all levels of public health as well as the Ministry of Health and other agencies including security agencies.
- Strengthen event-based surveillance and develop standard operating procedures, integrating information from WHO's EIOS, for conducting epidemic intelligence from open sources at national level.
- According to the Azerbaijan surveillance experts, the COVID-19 database should be integrated into the EIDSS system to unify the multisectoral electronic surveillance system.

D3. Human resources

Introduction

Human resources are important in order to develop a sustainable public health system over time by developing and maintaining a highly qualified public health workforce with appropriate technical training, scientific skills and subject matter expertise. Human resources includes nurses and midwives, physicians, public health and environmental specialists, social scientists, communication, occupational health, laboratory scientists/technicians, biostatisticians, IT specialists and biomedical technicians and a corresponding workforce in the animal sector: veterinarians, animal health professionals, para-veterinarians, epidemiologists, IT specialists etc.

The recommended density of doctors, nurses and midwives per 1000 populations for operational routine services is 4.45 plus 30% surge capacity. The optimal target for surveillance is one trained (field) epidemiologist (or equivalent) per 200 000 populations who can systematically cooperate to meet relevant IHR and PVS core competencies. One trained epidemiologist is needed per rapid response team.



Target

States Parties with skilled and competent health personnel for sustainable and functional public health surveillance and response at all levels of the health system and the effective implementation of the IHR (2005).

Level of capabilities

Azerbaijan has a comprehensive public and animal health system, comprising various operational levels. To ensure an effective system, the country has invested in all the required human resources, including technical skills that are regularly updated through training programmes. Azerbaijan is fortunate to have maintained several training programmes, which are supported by the government and international agencies.

Both long- and short-term planning for health programmes in Azerbaijan incorporate the essential human resources required for successful implementation. The Ministry of Health, TABIB and the animal health programme through AFSA, have developed strategies for controlling selected diseases that require planning for building a technical human infrastructure. Together, these entities are working to establish measures for disease control, building technical capacity and improving overall public and animal health in the country.

Indicators and scores

D3.1. Multisectoral workforce strategy: **score 1**

Strengths

- The human resources available for the newly established health delivery system managed by TABIB are adequate for efficient operation.
- Multisectoral resources were effectively utilized during the COVID-19 pandemic.

Challenges

- The collaboration and interaction between the human and animal sectors in utilizing qualified personnel is often limited; however, resources from multiple sectors were seen during the COVID-19 pandemic.

D3.2. Human resources for implementation of IHR: **score 3**

Strengths

- Selected sectors, primarily TABIB, have access to adequate human resources to detect, assess, notify, report and respond to events in accordance with the IHR (2005).

Challenges

- Insufficient coordination and utilization of human resources across various health-care sectors.

D3.3. Workforce training: **score 2**

Strengths

- The country has a long history of collaborating regionally and internationally in providing technical training on specific health topics and many of the current personnel in the system have been trained through these training sessions.

Challenges

- Multisectoral training programmes that incorporate practical case studies are insufficient.

D3.4. Workforce surge during a public health event: **score 3**

Strengths

- The emergency and disaster committee of the country takes into account the workforce in its planning and has the ability to assign the appropriate personnel in the event of an unexpected health crisis.

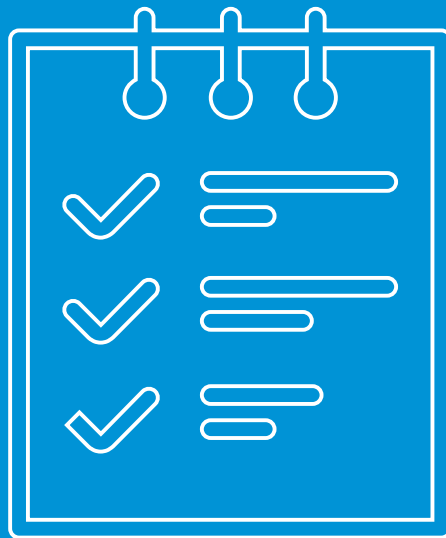
Challenges

- A formal gap analysis has not been conducted for the workforce of national emergency planning.

Recommendations for priority actions

- Consolidate information on the availability of human resources in all health sectors and establish mechanisms to enable a free flow of data and statistics between these sectors in order to facilitate a coordinated multisectoral response to meet the diverse needs
- Develop and implement a multisectoral national strategy and action plan, including joint multisectoral trainings for staff on the International Health Regulations (IHR) (2005) and One Health.
- Conduct a mapping of existing national contingency and emergency plans to incorporate a Human Resources component, to define workforce surges for public health events and utilize the lessons learned from the COVID-19 pandemic.

Respond



R1. Health emergency management

Introduction

This capacity focuses on management of health emergency and systems for enabling countries to be prepared and operationally ready for response to any public health event, including emergencies, as per the all-hazard requirement of IHR. Ensuring risk-based plans for emergency preparedness, readiness and response, robust emergency management structures and mobilization of resources during an emergency is critical for a timely response to public health emergencies.

Target

Existence of national strategic multi hazard emergency assessments (risk profiles) and resource mapping.

Existence of emergency readiness assessment

Development of national health EOC81 plans and procedures.

Establishment of an emergency response coordination mechanism or incident management system.

Evidence of at least one response to a public health emergency within the previous year that demonstrates that the country sent or received medical countermeasures and personnel according to written national or international protocols.

Existence of an emergency logistic and supply chain management system/mechanism.

Existence of policies and procedures for research, development and innovation for emergency preparedness and response.

Level of capabilities

Azerbaijan has experienced public health emergencies in recent years, including the COVID-19 pandemic and localized disease outbreaks that have helped the country to forge a response capacity able to respond to immediate needs.

Health emergencies in Azerbaijan are managed through a combination of legal provisions, plans and frameworks involving various government agencies and ministries. The country has established a Public Health Emergency Operation Centre (PHEOC) to coordinate response efforts during emergencies. Additionally, Azerbaijan has hazard-specific readiness plans and has demonstrated its preparedness during the COVID-19 pandemic.

Collaboration with international organizations, such as the WHO, plays a significant role in supporting the country's emergency management efforts. Azerbaijan also utilizes risk mapping, information management and data sharing through digital platforms and web portals to facilitate effective response during health emergencies.

However, the country still faces some challenges, such as fragmentation in its emergency management system which could be corrected with the development of multi-agency emergency frameworks and intensive coordination. Further updates to emergency readiness assessments and improved coordination among stakeholders are needed to strengthen Azerbaijan's capacity to manage health emergencies effectively.

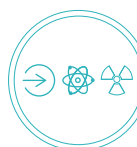
Azerbaijan's health emergency management system is a work in progress and continuous improvements are necessary to ensure effective responses to public health crises.

General highlights

Azerbaijan has established legal guidelines, regulations and frameworks to manage medical emergencies, as demonstrated by its performance in recent public health crises. However, the fragmentation of the system poses a risk for regression.

Although Azerbaijan has demonstrated preparedness through its readiness plans, which were tested during the COVID-19 pandemic, the country still needs to conduct further updates to its emergency readiness assessments. This should be done using a systematic and collaborative approach involving multiple stakeholders, enabling the identification of priorities.

Progress towards a systematic approach to emergency management is being made through collaboration with WHO and other international and foreign organizations at national level.



Indicators and scores

R1.1. Emergency risk and readiness assessment: **score 3**

While Azerbaijan has hazard-specific readiness plans, there is a need for an emergency readiness assessment for potential public health emergencies. The priorities identified should be used to inform preparedness and response plans at both the national and intermediate levels.

Strengths

- Azerbaijan has established legal provisions, plans and frameworks to manage health emergencies. These are constantly updated to address new challenges and improve the response capacity.
- Collaboration between various ministries and agencies, such as the Ministry of Health, the Ministry of Internal Affairs and the Ministry of Emergency Situations, ensures a comprehensive and coordinated approach to managing health emergencies.
- Azerbaijan works with international organizations, such as the World Health Organization (WHO), to align its emergency management strategies with international best practices and standards.
- Azerbaijan has developed hazard-specific readiness plans and conducts regular updates to its emergency readiness assessments. These plans are informed by a systematic and collaborative approach involving multiple stakeholders, allowing for the identification of priorities.
- Effective risk mapping and information management, as well as data sharing capabilities. The country utilizes a digital platform and web portals enable the sharing of disease risk profiles and other hazards profiles, enabling a more effective and targeted response to health emergencies.
- Simulation exercises on public health emergencies are periodically carried out with the participation of the appropriate parties.

Challenges

- Although Azerbaijan has demonstrated preparedness through its readiness plans, which were tested during the COVID-19 pandemic, the country still needs to conduct further updates to its emergency readiness assessments for potential public health emergencies. This should be done using a systematic and collaborative approach involving multiple stakeholders, enabling the identification of priorities.
- Guidelines on risk assessment of public health hazards, disaster and disease control require further development.
- There is a need for an updated national all-hazards risk profile based on a multisectoral multi-hazard risk assessment.
- Regular simulation exercises are needed at subnational level.
- There is a lack of trained human resources and a mechanism for regular capacity-building is required.

R1.2. Public health emergency operations centre: **score 3**

Azerbaijan has established a PHEOC. The centre is located at a physical space and staff has been appointed to occupy core functions, yet a variety of PHEOC-specific regulations and plans, including an emergency operations plan, a strategic humanitarian response plan and a business continuity plan, should be created by the nation. An equivalent of a complete PHEOC handbook is in place.

Strengths

- Azerbaijan has established a PHEOC, demonstrating commitment to public health emergency management.
- A physical location for the PHEOC has been secured, providing a centralized place for emergency response coordination.
- Staff have been appointed to occupy core functions within the PHEOC, ensuring that essential roles are filled.
- With the participation of the appropriate parties, simulation exercises on public health emergencies are periodically carried out.

Challenges

- Development and implementation of Emergency Operations Centre (EOC) plans and standard operating procedures describing operational elements and containing forms and templates for the effective functioning of the PHEOC during emergencies.
- While an equivalent of a complete PHEOC handbook is in place, continuous updates and improvements may be necessary to keep it current and comprehensive. It is recommended that the WHO's Framework for a PHEOC (2015)² is used as a guide and incorporation of existing documents are part of the corpus of the handbook.
- Human resources in technical areas are insufficient and capacity development and training should be further strengthened.
- Integrated public health and disaster data visualization should be made available to support decision-making.
- Health Emergency Operations Centre-specific plans should be developed, including emergency operations plans, civil/military plans, strategic/humanitarian response plans and business continuity plans.

R1.3. Management of health emergency response: **score 4**

The country has an established an incident command system (ICS) which is integrated into the national system. The current system responds to a rather centralized system and serves as an equivalent of incident management system (IMS) for health emergencies. However, it is to note that an IMS comprises more components and a whole of system approach and there are areas for improvement. To improve coordination between the different parts of the system, Azerbaijan should create standard operating procedures for health emergency response with timelines. A score of level five should require the available capacity to support intermediate levels based on simulation exercises and lessons learned from real-world events.

Strengths

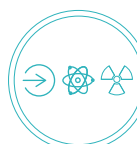
- An agency in charge of emergency situations at the ministerial level is an asset.
- Response committees to coordinate the health sector were established during COVID-19, giving the system the know-how and the experience of responding to a real time event.
- The ICS for health emergencies is established and integrated into the national PHEOC, which acts as secretariat of the ICS.
- Regular tabletop exercises, simulation exercises and IARs/AARs are conducted.
- Mapping of all relevant stakeholders is in place.

Challenges

- Coordination between agencies and stakeholders, including the Ministry of Internal Affairs and other security services, is needed to ensure an efficient and timely response to health emergencies.
- Ongoing capacity-building, training and simulation exercises involving all relevant partners and stakeholders to ensure a swift and efficient response during health emergencies.
- Engaging communities and civil society in emergency preparedness and response can be challenging, but it is essential to ensure the effectiveness of the overall response system.
- Improving communication and information sharing between public health and security services which can enhance the coordination and effectiveness of health emergency responses.
- A more reactive than proactive hub-and-satellite hospital networks. To overcome this issue, a revision/update of the Hospital Disaster Preparedness and Response Plan, resource mapping and a series of coordination meetings are required.

R1.4. Activation and coordination of health personnel in a public health emergency: **score 2**

Azerbaijan has established emergency medical deployment teams at national level and within TABIB's hospital network. Currently, the country is in the early stages of designing a comprehensive National Plan to manage surge capacity during public health emergencies. To achieve this, Azerbaijan aims to designate EMT focal points at both policy and operational levels and develop training and guiding documents for national and international surge health personnel. The existing system's fragmentation may present challenges to its effectiveness and hinder response to potential scenarios. Leveraging the technical assistance provided by the World Health Organization (WHO), Azerbaijan can enhance coordination, communication and policy-setting for an improved response. Considering the demonstrated capacity, a level two score has been proposed and agreed upon.



Strengths

- Azerbaijan has emergency medical deployment teams available at national level and within the TABIB hospital network, providing a foundation for effective response to public health emergencies.
- The country benefits from technical assistance provided by WHO, which can be an entry point for further development, coordination, communication and policy-setting improvements in the emergency response system.
- Azerbaijan's response capacity has been tested during recent public health emergencies, including the COVID-19 pandemic, showcasing its ability to handle crises.

Challenges

- Further to the establishment of the equivalent to EMTs and the designation of EMT focal points, a thorough certification process should take place and a formalization of the system at policy and operational levels according to international standards should be conducted.
- Training and guiding documents should be formulated for national and international surge health personnel deployed during public health emergencies.
- The development of a National Plan for emergencies should contain provisions on the framework for the pre-deployment, deployment and post-deployment systems of surge capacity. The absence of a comprehensive plan may limit the country's ability to effectively cascade down different areas of respond to public health emergencies.
- Improving coordination and communication between various stakeholders involved in emergency response is crucial for an effective and timely response to public health emergencies (see recommendations for R2. Linking Public Health and Security Authorities).

R1.5. Emergency logistic and supply chain management: **score 3**

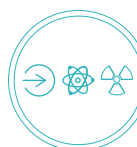
The Innovation and supply centre managed by the Ministry of Health covers the logistical needs of Azerbaijan and has been technically supported by different partners such as the EU and the United Nations Development Programme (UNDP) (on HIV/AIDS). In addition to the built-up capacity of Ministry of Health and TABIB, Azerbaijan has emergency medical logistics through the Ministry of Emergency Situations and can provide adequate support for health emergencies. However, the country should build health emergency logistics management centres at regional level. Setting up emergency medical logistic warehouses and supply chains at regional level will help in an effective movement of supplies and personnel during emergencies.

Strengths

- Ministry of Health manages the Innovation and Supply Centre, which covers the country's logistical needs and has received technical support from partners such as the EU and UNDP. However, it was not possible to determine the medical and health emergency items stock at the centre.
- Ministry of Health and TABIB have developed capacity in emergency medical logistics, enabling adequate support for health emergencies.
- the Ministry of Emergency Situations provides additional emergency medical logistics capacity, further strengthening the country's ability to respond to health emergencies.
- Emergency relief funds are available at national, regional and local levels.
- Legislative provisions and guidelines are in place for procurement of emergency logistics and countermeasures.
- A rapid action plan was developed to address the need for COVID-19 countermeasures.

Challenges

- There may be challenges in coordinating and integrating the various logistics and supply chain management efforts from different ministries and agencies, which can hamper the effectiveness of emergency response.
- Lack of Provincial Health Emergency Logistics Management Centres. Azerbaijan should establish health emergency logistics management centres at the provincial level to improve the distribution of supplies and personnel during emergencies.
- Insufficient Emergency Medical Logistic Warehouses. The country needs to set up additional emergency medical logistic warehouses at the provincial level to ensure an efficient supply chain during public health emergencies.
- Emergency medical logistic warehouses and supply chains are not established at all hub hospitals. Health emergency logistics management centres should be established at provincial level.
- Regular updates of the logistics suppliers and distribution networks. A digital platform, the Electronic Logistic Management Information System (eLMIS), is in place to monitor stock of medicines at different levels of health care institutions.
- Establish and train surge capacity for emergency logistics functions.



R1.6. Research, development and innovation: score 3

Azerbaijan has an independent body, the Azerbaijan National Academy of Sciences, which sets policy, activities and partnerships related scientific research and development. However, the country should establish mechanisms to ensure regular and adequate budget allocations for research activities related to emergency response, including public health emergencies. Furthermore, prioritize research related to emergencies prevention and response and incorporate research findings into policy and planning.

Strengths

- The Azerbaijan National Academy of Sciences is an independent institution responsible for setting policies, activities and partnerships related to scientific research and development.
- Through the establishment of the Ministry of Emergency Situations, Azerbaijan has shown commitment to enhance its capacity to respond to health emergencies and mainstream issues regarding preparedness and response to emergencies in policy and decision-making, as well as training and capacity development.
- Azerbaijan has a history of collaborating with international partners and institutions, which can facilitate knowledge exchange and build local capacity for research and innovation in health emergencies.

Challenges

- Even although there are resources available, ensuring regular and adequate budget allocations for research activities related to emergency response, including public health emergencies, remains a challenge.
- There is a need to prioritize research related to emergencies prevention and response and ensuring that resources are allocated strategically to address the most pressing needs.
- Incorporating research findings into policy and planning is crucial for evidence-informed decision-making during health emergencies. However, this process can be challenging and requires effective communication and coordination among stakeholders.
- Developing local research capacity in the field of health emergencies management is an ongoing challenge and it may require targeted training, mentorship and support.

- Adequate research infrastructure, such as laboratories and equipment, is necessary for conducting high-quality research related to health emergencies. Strengthening this infrastructure can be resource-intensive and challenging. It is recommended that the academy of the Ministry of Emergency Situations create the programmes and mechanisms to enhance research and development and innovation related to emergencies and making sure that research is incorporated at the planning phase of the emergency response.

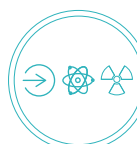
Recommendations for priority actions

- Update the national all-hazards risk profile by conducting a multisectoral, multi-hazard risk assessment, including an emergency readiness assessment for potential public health emergencies within 1 year.
- Establishment of multisectoral working group to coordinate and develop specific plans for Public Health Emergency Operations Centre (PHEOC).
- Setting up Public Health Emergency Operations Centres (PHEOCs) and hub-and-satellite hospital networks and coordination instances between regional and develop health emergency response standard operating procedures.
- Certify EMT focal points for policy and operations and develop training and guidance materials for deploying health staff during public health emergencies.

R2. Linking public health and security authorities

Introduction

Public health emergencies pose special challenges for law enforcement, whether the threat is manmade or naturally occurring. In a public health emergency, law enforcement will need to quickly coordinate its response with public health and medical officials.



Target

Country conducts a rapid, multisectoral response for any event of suspected or confirmed deliberate origin, including the capacity to link public health and law enforcement and to provide timely international assistance.

Level of capabilities

Public health emergencies in Azerbaijan are managed through a combination of legal provisions, plans and frameworks involving various government agencies and ministries. The Ministry of Emergency Situations of Azerbaijan holds a central executive authority in linking public health with security authorities. It is tasked with protecting the public and territories from both natural and man-made disasters, including and not limited to, public health emergencies, fires, explosions, chemical and biological accidents and transportation accidents. The ministry also oversees safety in industries, construction and mining and is tasked with creating and managing the state material reserves fund.

The Ministry of Emergency Situations is responsible for emergency preparedness and response and enforces regulations in areas such as civil defence, fire safety, technical safety and construction safety. It coordinates and provides humanitarian aid in emergency situations and ensures the development of areas within its mandate. Led by a Minister, who has one First Deputy and seven Deputy Ministers, the Ministry operates through various departments and organizations. These include civil defence forces, fire protection and control, crisis management, technical safety in industry and mining and safety in construction, among others.

The Ministry of Health, the Ministry of Internal Affairs and the Ministry of Defence also play key roles in managing public health emergencies and coordinating security. During the COVID-19 pandemic, the Ministry of Emergency Situations and related agencies formed a committee and implemented an internal action plan under Decree 377. The Food Safety Agency handles food-related issues, including zoonotic diseases. The Ministry of Emergency Situations activates a special operations team for emergency response, managing the 112 hotline. These agencies have been tracking influenza cases since 2007, adhering to a civil defence plan and a state management system established under Decree 239 in 1992. They conduct regular simulation exercises and collaborate on joint action plans for situations such as rabies outbreaks, involving other ministries such as the Ministry of the Environment and The Ministry of Agriculture.

Indicators and scores

R2.1. Public health and security authorities (e.g., law enforcement, border control, customs) linked during a suspect or confirmed biological, chemical or radiological event: **score 4**

Azerbaijan engages in rapid, multisectoral responses to events of suspected or confirmed deliberate origin, effectively integrating public health and law enforcement. This includes the capacity to extend timely international assistance. The effectiveness of this approach is evaluated through evidence of successful responses in the past year that have combined public health and law enforcement or through formal exercises or simulations that involve leadership from both sectors.

Strengths

- Azerbaijan has established a high-level centralized authority (the Ministry of Emergency Situations) that plays a central role in linking public health with security authorities, responsible for a broad range of duties including emergency mobilization of Armed Forces, training, research and international collaboration.
- The Ministry of Emergency Situations works in conjunction with the Ministry of Health, the Ministry of Internal Affairs and the Ministry of Defence and have been able to coordinate responses to emergencies, enhancing the capacity to manage crises effectively.
- Agencies have established response mechanisms such as the 112 hotline for emergencies and they conduct simulation exercises to maintain readiness.
- The agencies have a proven track record of monitoring public health threats, such as tracking influenza cases since 2007 and forming a committee to manage the COVID-19 pandemic under Decree 377.

Challenges

- Despite multi-agency involvement, there is a need to ensure more regular and consistent collaboration between all relevant partners and stakeholders. This could be achieved through an annual joint emergency response training programme and simulation exercises.
- There is room for improved integration of security services into public health response, such as incorporation of focal points from the Ministry of Internal Affairs and other relevant security services into the cross-government IHR Task Force.
- Enhancing communication between public health and security services is critical, particularly in emergencies. Developing manuals and brochures with pertinent information for swift communication could help improve this aspect.
- There is a need for better public awareness and understanding of the roles and responsibilities of various agencies and how to access their services in emergencies.

Recommendations for priority actions

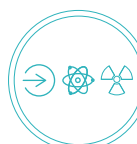
- Develop, adopt and implement an annual joint emergency response training programme and simulation exercises involving all relevant partners and stakeholders, ensuring regularity and consistent collaboration.
- Incorporate focal points from the Ministry of Internal Affairs and other relevant security services into the cross-government IHR Task Force.
- Develop manuals and brochures to enhance communication and comprehension between public health and security services, including contact numbers and other pertinent information for swift communication.

R3. Health services provision



Introduction

Resilient national health systems are essential for countries to prevent, detect, respond to and recover from public health events, while ensuring the maintenance of health systems functions, including the continued delivery of essential health services at all levels. Particularly in emergencies, health services provision for both event-related case management and routine health services are equally as important. Moreover, ensuring minimal disruption in health service utilization before, during and beyond an emergency and across the varied contexts within a country is also a critical aspect of a resilient health system.



Target

- Evidence of demonstrated application of case management procedures for events caused by IHR relevant hazards.
- Optimal utilization of health services, including during emergencies.
- Ensuring continuity of essential health services in emergencies.

Level of capabilities

Azerbaijan demonstrated its ability to manage essential health services (EHS) during the COVID-19 pandemic, including the provision of broader essential services to the population, through a coordinated Presidential Cabinet consisting of the different authorities involved in the response (including Ministry of Health, TABIB, the Office of Prime Minister and SAMHI).

During health emergencies, a coordination group is established under TABIB in an incident management team which is divided across different pillars of the response.

Several laws have been developed at national level which forms the legal framework to enact decrees, resolutions and decisions on health service provision during public health emergencies. Azerbaijan's constitution allows full entitlement and access to all the population, without differences of gender, religion or migration status. The civil defence system is activated to respond during emergencies. A civil defence plan has been developed for the country which outlines the roles and responsibilities of different agencies and stakeholders and the measures they need to take during emergencies, including references to specific case management procedures.

Emergency contingency plans are in place and are currently they are currently being updated.

Azerbaijan recognizes the importance of strong communication, data and information sharing during emergencies and have developed a communications algorithm including both mobile and radio communications, to ensure the continuity of communication during emergencies. TABIB plays a crucial role in operational and data management. During the field visit of JEE experts to TABIB, it was clear that there has been a strong data management system developed in which data can be gathered and analysed at facility level on a daily basis.

Before, during and after the acute phase of the COVID-19 pandemic, health-related emergency preparedness and response plans and policies for priority health events have been developed and implemented at national and regional levels, particularly at tertiary and secondary levels. During the acute

phase of the COVID-19 response, several hospitals were repurposed for COVID-19 treatment to be able to deal with the sharp increased need for additional bed capacity. In addition, 10 modular-type hospitals were established which increased bed capacity by over 2000 beds. For the national emergency medical services (EMS) system, performance and process indicators related to the health facilities involved (such as all the hospital networks in the country) are monitored in real-time by a specific monitoring system, allowing daily dashboards to describe the state of the art.

To reduce service disruption during the COVID-19 response, essential and digital health services were prioritized. At the same time, other important organizational innovations have been the involvement of various private sector entities, including private health-care facilities, mobilized in COVID-19 responses and services.

TABIB coordinates a database for health professionals in the country according to discipline and specialty. More than 90 000 medical personnel have been mapped and included in this database. During COVID-19, EMTs from other countries supported the response in Azerbaijan including Türkiye and the Republic of Cuba, among others.

International cooperation with WHO, the United Nations and other countries in the region has been important for Azerbaijan's response to health emergencies.

Indicators and scores

R3.1. Case management: **score 3**

Strengths

- A legal framework is defined for developing, updating and monitoring the implementation of case management guidelines.
- Public Health and Reforms centre is responsible for the guideline development and case management guideline production.
- Hazards have been identified and health risks have been prioritized under each hazard based on the likelihood of occurrence and impact.
- Azerbaijan conducts real-time monitoring at the central level with primary, secondary and tertiary health care health providers for timely indicator-based facility management.

Challenges

- National clinical case management guidelines for priority health events have been developed but is currently in need to be updated in light of the new health agencies created in the country.
- During the COVID-19 epidemic, TABIB has shown strong leadership in hospital and health care facility management but a stronger integration process between all concerned stakeholders, including the Ministry of Health, professional associations, academic experts and scientific groups is needed to handle the complexity of public health events and implement of clinical case management guidelines for priority health events at all levels.
- Improved management and coordination among the different stakeholders involved are needed, along with the integration of evidence-informed medicine with a technical and strategical vision to create and disseminate guidelines for the provision of emergency-specific health services.

R3.2. Utilization of EHS: **score 3**

Strengths

- TABIB built a routine health management information system and monitors service utilization on a daily basis.
- TABIB, as an established national accreditation body, works to ensure high-quality services and public trust for continued service utilization even in non-emergency times.

- Azerbaijan's TABIB Data Department is a central system for data and information from hospitals at subdistrict, district, provincial and national levels. Satisfactory levels of service utilization in the different health-care facilities at national level have been verified (the number of outpatient department visits is 2.8 visits/person/year, in both urban and rural areas).
- Increased access to digital health care and an e-health platform (e-TABIB) provided to and used by the population during COVID-19, can represent in the immediate future an important tool to develop telemedicine and digital services.
- During COVID-19, Azerbaijan's health-care system showed high resilience. Several hospitals were repurposed for COVID-19 treatment for the country to be able to manage the sharp increase in the need for additional bed capacity. In addition, 10 modular-type hospitals were established which increased bed capacity from 200 to over 2000 beds.

Challenges

- Differences among the different regions have been reported. Actions need to be taken to address these differences.
- There is a good service utilization level in tertiary and secondary health-care facilities across the country and the possibility of improvement by building on existing capacities of monitoring and managing it.

R3.3. Continuity of EHS: score 4

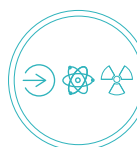
A national package of EHS was defined during the COVID-19 pandemic.

Strengths

- The COVID-19 emergency preparedness and response plan allowed Azerbaijan to have effective continuity of EHS during the pandemic.
- During the epidemic, contingency plans have been developed for all public health risks and a package of essential health services has been defined (including human resources and supplies).

Challenges

- Need to integrate gender analysis in contingency plans for continuity of EHS during public health emergencies and consider the differential impacts of emergencies on different marginalized and vulnerable groups.
- In the context of a fragmented system with many stakeholders involved, the level of coordination needs to be improved through integrated trainings and implementation of relevant guidelines, at all levels of the system.



Recommendations for priority actions

- Update, consolidate, disseminate and implement the national clinical management guidelines for all priority risks as a priority action within the next year
- Strengthen capacities for emergency preparedness and service resilience, by conducting a mapping and gap analysis of the health workforce in the different health-care facilities, to allow for planning of qualitative and quantitative needs in this area in order to guarantee delivery of essential health services and that the health needs of the population are met during disruptive public health events.
- Conduct a stakeholder analysis in order to develop and consolidate standard operating procedures for agencies involved in health service provision during health emergencies to enhance coordination in this area at all levels.
- Update the national and regional assessments and evaluate clinical and epidemiological needs for the provision and maintenance of essential health services and health systems functions during public health events, including the continued delivery of essential health services at all levels, with a particular focus on the risk and vulnerability of fragile, vulnerable and hard to reach populations.

R4. Infection prevention and control

Introduction

To have strong, effective infection IPC programmes that enables safe health care and essential services delivery and prevention and control of HAIs. It is critical to initially ensure that at least the minimum requirements for IPC are in place, both at the national and facility level and to gradually progress to the full achievement of all requirements within the WHO IPC core components recommendations.

Target

- National IPC programme strategy has been developed and disseminated.
- Implementation of the national IPC programme plans, with monitoring and reporting of HAIs.
- Established national standards and resources for safe health facilities.

Level of capabilities

The 2022 results of the global database for tracking AMR country self- assessment survey (TrACSS)³ shows that in Azerbaijan, a national IPC programme is available according to the WHO IPC core components guidelines. IPC plans and guidelines are implemented nationwide (level D). However, according to the 2022 SPAR⁴ results submitted by Azerbaijan the current level of implementation of core capacity nine IPC is the following:

- **IPC programmes:** an active national IPC programme or operational plan according to WHO minimum requirements exists but is not fully implemented.
- **HAI surveillance:** a national strategic plan for HAI surveillance (including pathogens that are antimicrobial resistant and/or prone to outbreaks) is available but not implemented.
- **Safe environment in health facilities:** national standards and resources for safe built environment, such as WASH in health-care facilities, including appropriate infrastructure, materials and equipment for IPC; as well as standards for reduction of overcrowding and optimization of staffing levels in health-care facilities, according to WHO minimum requirements, exist but are not fully implemented through a national plan.

The COVID-19 pandemic helped to accelerate the creation of IPC programmes at national- and facility level initially focusing on achieving implementation of the minimum requirements of IPC programmes at both levels.

Using a stepwise approach, the minimum requirements of IPC programmes have been progressively implemented since 2021, including the development of a 5-years National IPC strategy, creation of a National and Facility-based IPC Committees (2022), development of a certified national IPC training programme for health workers (2023), revision of national IPC manual (2023), preparing for the pilot point prevalence survey on HAIs, antimicrobial use and AMR, developing a HAI surveillance system,

3 Global Database for Tracking Antimicrobial Resistance Country Self- Assessment Survey (TrACSS), accessible at <https://amrcountryprogress.org/#/visualization-view>.

4 IHR State Party Self-Assessment Annual Report (SPAR).

setting up a National AMR reference laboratory and improving access to microbiological laboratories. Moreover, the IPC National Committee has been strategically embedded within the AMR National Task Force and other programmes, including those on Quality of Care, Patient Safety and Preparedness and Response to Outbreaks.

With a specific goal to ensure that patient care activities are undertaken in a clean and/or hygienic environment, which would facilitate the prevention and control of HAIs and AMR, the National IPC committee will revise national guidance on hospital waste management, sterilization of medical equipment, laundry management through collaborative efforts involving key national and international stakeholders.

Indicators and scores

R4.1. IPC programmes: score 2

Strengths

- There is a strong National commitment to strengthen IPC capacities throughout health-care facilities.
- A functional and active Multisectoral National IPC committee is in place.
- All acute care hospitals have mandatory hospital hygiene committees and operational IPC focal points.
- National IPC manual is being updated.
- A certified National IPC training curriculum has been developed.

Challenges

- There is a lack of national personnel qualified in hospital epidemiology and IPC,, therefore, the National IPC Committee would benefit of having members undergoing formal IPC education.
- IPC education should not be considered simply a stand-alone activity but should be integrated into all medical teaching. A focus on specific infectious diseases, such as COVID-19, should not be considered IPC education but rather education which focuses on the guiding principles of IPC.
- At present there is no structured monitoring/auditing of IPC practices at national level. Monitoring and auditing practices should be set out in the national IPC strategy and include specific and timely monitoring activities which inform and guide the IPC interventions nationally. Facilities should conduct monitoring and auditing which should feed into national monitoring systems.
- Current existing guidance relating to other public health vertical programming (HIV, TB, Immunization, etc) may require to be revised to ensure IPC recommendations are aligned with National IPC manual.
- Appropriate hand hygiene practices can save lives, is effective in preventing infections, generates economic savings and is an IPC minimum requirement in all health-care facilities. Implementing a multimodal hand hygiene improvement strategy is the most effective way to improve hand hygiene practices and contribute to ensuring IPC is in place in health-care facilities.

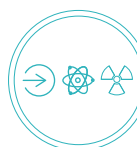
R4.2. HAI surveillance: score 1

Strengths

- A pilot point prevalence survey on HAIs, antimicrobial use and AMR will be conducted in May 2023.
- The National IPC Committee is developing a HAI surveillance system.

Challenges

- HAI surveillance currently consists of passive surveillance reported by health-care workers. There is a need to introduce surveillance of HAIs within facilities. It is important that the surveillance of



HAI is not seen to reflect negatively on facilities and that facilities are appreciated and encouraged for accurately reporting this information. It is recommended that surveillance be a core role of the IPC committees.

- Certain facilities are lacking microbiology labs, which creates challenges to identify and manage HAIs. Facilities which have laboratory capacity should commence HAI surveillance.

R4.3. Safe environment in health facilities: score 3

National standards and resources for safe built environment, for example WASH in health-care facilities, including appropriate infrastructure, materials and equipment for IPC; as well as standards for reduction of overcrowding and optimization of staffing levels in health-care facilities, according to WHO minimum requirements, exist and are implemented in health-care facilities at national level through a national plan

Strengths

- A 10-year roadmap to address water, sanitation and hygiene in health-care facilities has been developed in collaboration with UNICEF. The plan was submitted to health authorities and is submitted for national approval.
- Selected health-care facilities meet the WHO minimum requirements for safe environment

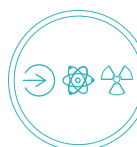
Challenges

- National standards for safe built environment are implemented in selected health-care facilities.
- Resources to ensure safe environment standards for waste management, decontamination of medical equipment, uninterrupted access to IPC supplies (hand hygiene products, personal protective equipment, cleaning and disinfection products for environmental cleaning) are implemented in selected health-care facilities.

Recommendations for priority actions

- Take required steps for the approval of the National IPC strategy.
- Implement the WHO core components of IPC programmes at national, regional and facility levels. The implementation should include baseline assessments development of operational and funded facility-based IPC action plans.
- Update a national hand hygiene improvement plan which includes systematic monitoring of hand hygiene as a key performance indicator at national level.
- Conduct a nation-wide point prevalence on health care-associated infections. This will allow facilities to target IPC measures and assess trends and contribute to further align national HAI surveillance goals and objectives with national targets.
- Implement in all health-care facilities the WHO minimum requirements for safe built environment in line with the approved WASH roadmap. The implementation should include baseline assessment utilizing WASH-FIT tool and the development of operational and funded facility-based WASH action plans

R5. Risk communication and community engagement



Introduction

Risk communications should be a multilevel and multifaceted process which aims at helping stakeholders define risks, identify hazards, assess vulnerabilities and promote community resilience, thereby promoting the capacity to cope with an unfolding public health emergency. An essential part of risk communication is the dissemination of information to the public about health risks and events, such as disease outbreaks. For any communication about risk caused by a specific event to be effective, the social, religious, cultural, political and economic aspects associated with the event should be taken into account, including the voice of the affected population.

Target

States Parties use multilevel, multisectoral and multifaceted RCCE capacity for public health emergencies. Real-time exchange of information, advice and opinions during unusual and unexpected events and emergencies so that informed decisions to mitigate the effects of threats and protective and preventive action can be made. This includes a mix of communication and engagement strategies, such as media and social media communications, mass awareness campaigns, health promotion, social mobilization, stakeholder engagement community engagement and infodemic management.

Level of capabilities

Azerbaijan has demonstrated the capacity to conduct timely, well-coordinated risk communication across numerous platforms. This includes engaging with affected communities and their representatives in the response and, incorporating feedback and insights from social listening into Risk Communication and Community Engagement (RCCE) strategies and actions.

During the COVID-19 pandemic, Azerbaijan achieved regular and timely communication coordinated across the whole of government about the pandemic and the government's response actions via the COVID-19 Operational Headquarters established under the Cabinet of Ministers. Coordination under the Cabinet of Minister has also been used for other emergencies in recent years, such as an influx of refugees after the start of the war in Ukraine and the response to monkeypox.

Several examples of RCCE best practice were noted during the evaluation, such as use of data from a national COVID-19 hotline, monitoring of social media and behavioural Insight surveys, to better understand public perceptions, beliefs and information needs.

The JEE identified a number of areas where capacities could be further strengthened along with a need to consolidate lessons identified and good practices from the COVID-19 response.

Indicators and scores

R5.1. RCCE systems for emergencies: **score 3**

The RCCE system is good, but there is scope to further strengthen it. Lessons identified and good practices from the COVID-19 pandemic need to be incorporated into the system as it prepares for future emergencies.

Strengths

- Strong whole-of-government communication on COVID-19 via Operational Headquarters established under Cabinet of Ministers, including joint press releases and pool of spokespeople.
- Operational Headquarters mechanism can be used to coordinate communication response to future emergencies.
- All three of the key health sector bodies – Ministry of Health, SAMHI and TABIB – have crisis communication plans in place.
- International partners (EU, WHO and the Republic of Lithuania) have provided technical support to strengthen RCCE.
- Government mobilized significant human and financial resources for RCCE during COVID-19 pandemic.

Challenges

- Mechanisms to coordinate public communication, RCCE preparedness planning and sharing of RCCE good practice/knowledge across government when no emergency is occurring should be strengthened.
- Pool of government officials, academic experts and representatives from civil society organizations trained as spokespeople on health emergency issues should be expanded.
- Capacities for community engagement and infodemic management could be further strengthened.

R5.2. Risk communication: **score 4**

The lead government agencies (Ministry of Health, SAMHI and TABIB) showed a strong ability to conduct risk communication incorporating key emerging good practices during the COVID-19 pandemic.

Strengths

- Demonstrated ability to produce risk and crisis communication plans.
- Demonstrated ability to conduct risk communication via multiple channels, including traditional mass media, social media online platforms and applications of government agencies.
- COVID-19 hotline and applications enabled two-way communication during pandemic.
- Use of online and offline social listening, including data from COVID-19 hotline and regular behavioural insight surveys to guide risk communication.
- Risk communication via applications, websites and call centre link to health services (such as for testing or vaccination).
- Outreach and coordination with social media influencers and civil society.

Challenges

- Continuation of coordination, networking and sharing of good practice across all government bodies involved in IHR implementation beyond the COVID-19 pandemic.
- Infodemic management is a new area of capacity and could benefit from further strengthening.
- Joint strategy development and preparedness planning on One Health issues across public health, animal health, food safety and the environment was identified as an area in need of additional attention.

R5.3. Community engagement: **score 3**

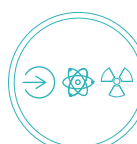
Azerbaijan's health authorities should be acknowledged for rapidly developing a programme of outreach and cooperation with civil society organizations and religious leaders during the COVID-19 pandemic. This cooperation should be maintained and further strengthened beyond the COVID-19 pandemic.

Strengths

- Dialogues with civil society organizations initiated to brief them on COVID-19 and understand their needs.
- Dialogue with State Committee on Work with Religious Institutions to engage religious leaders.
- Young people volunteers mobilized during pandemic by Union of Volunteer Organizations, to assist elderly and other vulnerable groups during COVID-19 periods of restricted movements and support the COVID-19 vaccination campaign.
- Volunteers and civil society organizations helped provide psychosocial support to health workers and vulnerable communities during pandemic.

Challenges

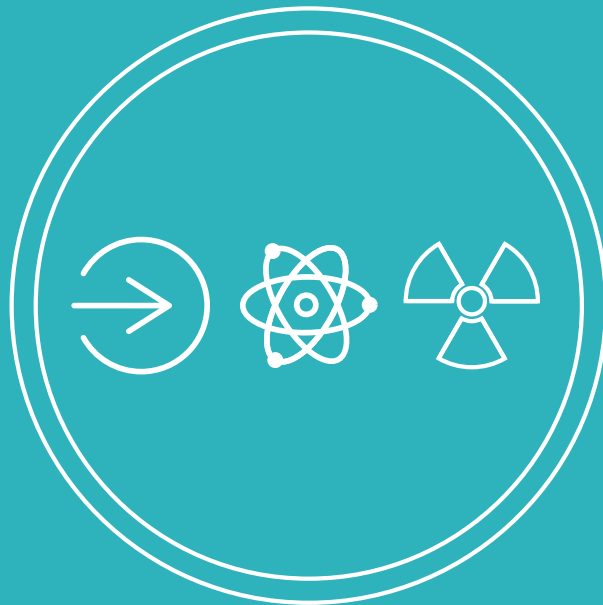
- Collaboration between health sector and civil society in Azerbaijan is still relatively new and not fully developed.
- There are few civil society organizations with a specific focus on health issues.
- Civil society organizations, in general, have limited health knowledge and limited capacity to engage in RCCE activities.



Recommendations for priority actions

- Develop a strategic risk communication and community engagement (RCCE) network, linking the RCCE staff across government to share best practices, tools and research results relevant to RCCE. This network should develop links with academic institutions, civil society and international partners to enhance knowledge sharing and good practices.
- Develop and implement a multisectoral programme of RCCE training and capacity-building actions. This should aim at further strengthening RCCE capacities in civil society, the media and among scientists as well as IHR implementing entities at all levels.
- Develop and implement a joint One Health communication strategy with all relevant sectors including animal health, food safety and environment.

IHR-related hazards, PoEs and border health



PoEs. Points of entry and border health

Introduction

All core capacities and potential hazards apply to "points of entry" and therefore enable the effective application of health measures to prevent international spread of diseases. States Parties are required to maintain core capacities at designated international airports and ports (and where justified for public health reasons, a State Party may designate ground crossings), which will implement specific public health measures required to manage a variety of public health risks.



Target

States Parties designate and maintain core capacities at international airports and ports (and where justified for public health reasons, a State Party may designate ground crossings) that implement specific public health measures required to manage a variety of public health risks.

Level of capabilities

Azerbaijan has a comprehensive structure with an effective operational system to implement preventive measures at specific Integrated Check Posts (ICPs) at PoEs. Collaboration exists between public health authorities and the customs authority, including joint management of aviation and seaport authority on safety risks related to COVID-19 at Haydar Aliyev International Airport and Baku Port Authority. The State Quarantine Services (SQS) has built professional work relationships with national public health and agriculture authorities and has collaborated with relevant authorities among neighbouring countries. Thirteen active ICPs have been created on the land border between the Russian Federation, Georgia, the Islamic Republic of Iran and Türkiye. These ICPs house customs, immigration and border security authorities working to facilitate the movement of passengers and freight between those countries. The SQS might consider following the example of its fellow authorities and enter into bilateral agreements with neighbouring countries in order to facilitate and strengthen compliance with Articles 21 and 57 of the IHR (2005), concerning joint prevention and control of international transmission of diseases at adjacent ground crossings shared by neighbouring countries.

In Azerbaijan, the SQS at PoE, as described in Articles one and 22 of the IHR (2005), comprises public health staff who report to four different sections of Ministry of Health. These sections are Centre for Hygiene and Epidemiology, Sanitary Quarantine Centre, Centre for the Control of Especially Dangerous Infections and Public Health and Reforms Centre.

As per Guideline #5244 01/06/2021 and Memorandum dated 15/05/2018, there are procedures at PoEs for control and actions on Sanitary and Phytosanitary Standards (SPS) goods and action plans described in detail in Decree #485. There are Technological Schemes approved by State Customs Committee #100/030 dated 17/02/2015 and 100/063 dated 18/04/12 015 that describes mechanism of detection, control and information flow on all goods and vehicles, including SPS goods.

The State Customs Committee of Azerbaijan has developed a Standard of Operation to satisfy the "National Security Concept of the Republic of Azerbaijan" approved by the Decree of the President of the Republic of Azerbaijan dated 22 May 2007.

Indicators and scores

PoE1. Core capacity requirements at all times for PoEs: **score 4**

Strengths

- A comprehensive structure with an effective operational system to implement preventive measures at specific ICPs.
- Collaboration is shown between public health authorities and the custom authority, including joint management of the Aviation and Sea Port Authorities on safety risks related to COVID-19 at Haydar Aliyev International Airport and Baku Port Authority and implementing the International Civil Aviation Organization's COVID-19-related Council.
- The SQS has built professional work relationships with the national public health and agriculture authorities. Similarly, a professional collaboration was built with relevant authority among the neighbouring countries.

Challenges

- A risk assessment has not been conducted at PoE, including the Haydar Aliyev International Airport or Baku Port Authority, to utilize best practices to strategically reduce the risk.
- A multisectoral risk assessment of the ICP ground crossings has not been performed based on measurable criteria of three indicators (identification of hazards and risk analysis; water, sanitation and hygiene (WASH); and protection of stakeholders and at-risk groups).
- Bilateral agreements specific to handling public health hazards with the neighbouring countries. Particularly with those countries that Azerbaijan is engaged with in heavy trade and people crossing, where agreements are not officially formalized.
- The current coordination between point of contact of SQS and the national surveillance system, including animal health, could be strengthened by establishing criteria for reporting, detection procedures, contact tracing, information flow circuits and electronic data transmission. As per Decree of the Cabinet of Ministers #485 12/11/2018, Guideline #5244 01/06/2021 and is a Memorandum dated 15/05/2018 signed between AFSA and State Customs Committee on all information to be exchanged in real-time regime including statistical data.

PoE2. Public health response at PoEs: **score 4**

Strengths

- All the necessary materials and equipment are available to apply entry and/or exit controls for arriving and departing travellers, including Personal Protective Equipment (PPE), thermal cameras and an isolation room.
- The public health authority is a member of the TIA Emergency Operations Centre (EOC) and participates in simulation exercises set up and run by the Haydar Aliyev International airport.
- The SQS has integrated international health requirements in their operation.
- Development and implementation of a national plan at PoE for emergency preparedness plan for operating during the COVID-19 pandemic.
- Quarantine facilities for imported animals have been completed and established under the Animal Quarantine Offices to prevent transboundary spread of animal diseases among all ground crossings.

Challenges

- The Republic of Azerbaijan would benefit from institutionalizing collaboration and communication between public health authorities at PoE and the animal border quarantine check posts. As per Guideline #5244 01/06/2021 and Memorandum dated 15/05/2018 signed between AFSA there are procedures at PoEs for control and actions on SPS goods. Action plans described in detail in decree #485. In addition, there are Technological Schemes approved by SCC #100/030 dated

17/02/2015 and 100/063 dated 18/04/2015 that describes mechanism of detection, control and information flow on all goods and vehicles including SPS goods.

- There is a need for customized training that covers IHR (2005) requirements for public health personnel at all PoE.



PoE3. Risk-based approach to international travel-related measures: **score 3**

Strengths

- The multisectoral governmental body in charge of planning and developing strategies for measures related to international travel is the Technical Committee under the ministerial level National Emergency Plan.
- The Technical Committee brings the health sector together with all other relevant stakeholders.
- The Technical Committee receives information from the National Emergency Operation Committee.
- During the peak of the COVID-19 pandemic, the Technical Committee coordinated with the COVID-19 Crisis Management Centre.



Challenges

- Development of a strategy, relevant guidelines and standard operating procedures that would facilitate the implementation of international travel measures and, establish capacity to adapt and adjust them.
- Azerbaijan would benefit from adopting a proportionate, risk-based approach to the adaptation and adjustment of travel measures.
- There is a need to evaluate the effectiveness of international travel-related measures in response to public health events based on data related to travellers' mobility from PoE at national, regional and local levels.



Recommendations for priority actions

- Validate the National Public Health Emergency Plan and its risk assessment component among all points of entry through joint multisectoral exercises such as table-top exercises and functional drills.
- Enhance routine core capacity as set out in IHR (2005) Annex 1b, including food and water safety, waste management and vector control, for alignment and compliance with requirements under the IHR and relevant WHO guidelines.
- Enhance activities at points of entry to control infectious hazards (such as upgrade the isolation units) under the official agreements with neighbouring countries, particularly those agreements involving neighbouring countries with which Azerbaijan manage a high level of trade and movement of people.

CE. Chemical events

Introduction

Timely detection and effective response of potential chemical risks and/or events requires collaboration with other sectors responsible for chemical safety, industries, transportation and safe disposal. This would entail that State Parties need to have surveillance and response capacity to manage chemical risk or events and effective communication and collaboration among the sectors responsible for chemical safety.

Target

States Parties with surveillance and capacity for chemical risks or events. This requires effective communication and collaboration among the sectors responsible for chemical safety, including health, occupational health, emergencies, environment, transportation and safe disposal, agriculture/ veterinary, as well as industries.

Level of capabilities

Azerbaijan's preparedness for a chemical or hazardous substance incidents require special attention and a series of actions for rapid execution. Among them is the strengthening of the National Poison Centre (Poison information Unit), the transfer of information to the field and the formulation of appropriate procedures. It seems that there is the ability and knowledge to take action as required but a formalized plan accompanied by close supervision mechanisms are missing. If such a plan and monitoring and supervision mechanisms would be developed and implemented, Azerbaijan's response to chemical or hazardous substance incidents would be significantly strengthened.

Indicators and scores

CE1. Mechanisms established and functioning for detecting and responding to chemical events or emergencies: **score 3**

Strengths

- A National Poison Centre has been established (The Poison Information Unit).
- Training programmes are in place for training teams in identifying and responding to chemical incidents.
- Information regarding which factories and hospitals possess dangerous substances is available.
- Tracking and signage of dangerous substances is conducted, including their identification on trucks carrying dangerous substances.

Challenges

- Conducting a risk assessment for the treatment of chemical disasters.
- Lack of coordination of information with neighbouring countries.
- A mechanism exists but is not synchronized with the other bodies.
- The existing National Poison Information Unit is not active 24/7.

CE2. Enabling environment in place for management of chemical events: **score 2**

Strengths

- Azerbaijan has several national experts in this area and there is a training programme available.
- A book for identifying toxic and dangerous substances exist for medical personnel, available both at the hospital level as well as in ambulances.
- Information is available, on the amount of hazardous materials in the country by location and there are markings on trucks transporting hazardous materials. However, this information is not complete.

Challenges

- No risk assessment has been performed on the amount of protective equipment required.
- There is no national inventory with a distribution plan.
- There is a lack of dedicated drugs to respond to a chemical incident/dangerous substance.



Recommendations for priority actions

- Conduct a risk assessment for the need of stockpiles and national storage.
- Develop a complex programme, including mechanisms of response to chemical incidents and cross-border information exchange.
- Develop and maintain an online database for hazard chemicals and substances.

RE. Radiation emergencies

Introduction

To counter radiological and nuclear emergencies, timely detection and an effective response towards potential radiological and nuclear hazards/events/emergencies are required in collaboration with sectors responsible for radiation emergency management.

Target

States Parties should have surveillance and response capacity for radiological emergencies and nuclear accidents. This requires effective coordination among all sectors involved in radiation emergencies preparedness and response.

Level of capabilities

Azerbaijan has an atomic agency that is appreciated by being part of all the laws and regulations required in this field. The coverage of the borders in terms of radiation tests is good, as well as the level of awareness of this issue. There is an awareness of the subject and radiation practice and an understanding of the importance of the internal and international coordination of knowledge distribution and knowledge sharing. However, a full and real risk assessment is also required which will lead to a procurement model of protective equipment, medicines and diagnostic laboratories which will lead to full compliance with the needs of the state's emergency assessments.

Indicators and scores

RE1. Mechanisms established and functioning for detecting and responding to radiological and nuclear emergencies: **score 2**

Strengths

- Awareness of all the existing laws and agreements on the nuclear issue.
- Joint exercises are carried out on the nuclear issue.
- There are detectors at all border crossings and people have been trained to detect all types of radiation.

Challenges

- A higher amount of protective equipment is required in case of a nuclear incident.
- Cooperation and practice with neighbouring countries that have radioactive reactors is required for institutionalization.
- Risk assessment on the size of the population that will result from an incident in a neighbouring country.

RE2. Enabling environment in place for management of radiological and nuclear emergencies: **score 3**

Strengths

- There is knowledge, content experts and policy on the radiological subject.
- The nuclear agency is well aware of what is required of it and builds response plans in accordance with all the required professional responses.
- There is constant learning and a desire to improve the state response as the "motto" of the agency.

Challenges

- There is a certain lack of laboratories to respond to a radiological event.
- Not all the required drugs are available in sufficient quantity to treat a major event.
- Lack of a suitable budget for the purchase of equipment together with the Identified required quantity.



Recommendations for priority actions

- Conduct a risk assessment to assess the size of the population that needs to be protected in case of a radiation emergency.
- Based on the risk assessment results, build up a national stockpile of pharmaceutical agents that can be used as countermeasures in radiation emergencies (such as diethylene triamine penta-acetic acid, prussian blue, potassium iodide, cytokines).
- Establish a laboratory system for better control of radiation emergency events.

Annex. JEE background

Mission place and dates

Baku, Azerbaijan, 1–5 May 2023

Mission team members:

- Karen Sliter (team lead), International Atomic Energy Agency (IAEA)
- Yolanda Bayugo (team co-lead), World Health Organization (WHO) Headquarters
- Ran Adelstain, Department of Emergency Situations, State of Israel Ministry of Health
- Ana Paula Coutinho Rehse, WHO Regional Office for Europe
- Ben Duncan, WHO Regional Office for Europe
- Jorge Pinto Ferreira, Food and Agriculture Organization of the United Nations (FAO)
- Henk Jan Ormel, WHO headquarters
- Christian Lara, United Nations Development Coordination Office (UNDCO)
- Sandra Lindmark, WHO Regional Office for Europe
- Salman Mo, Colorado State University, the United States of America
- Paolo Parente, Università Cattolica del Sacro Cuore, Italy
- Philomena Raftery, WHO Country Office for Türkiye
- Dirk Werber, State Office for Health and Social Affairs, Germany

Mission support

- Radu Cojocaru, WHO European Region South Caucasus Hub
- Vasily Esenamanov, WHO European Region South Caucasus Hub
- Laman Gasimova, WHO Country Office for Azerbaijan
- Javahir Suleymanova, WHO Country Office for Azerbaijan

Objective

To assess Azerbaijan's capacities and capabilities relevant to the 19 technical areas of the JEE tool for providing baseline data to support Azerbaijan's efforts to reform and improve their public health security.

The JEE process

The JEE process is a peer-to-peer review. The external evaluation, including discussions around the priority actions, the strengths, the areas that need strengthening, best practices, challenges and the scores are collaborative, with JEE team members and host country experts seeking full consensus on all aspects of the final report findings and recommendations.

Should there be significant and irreconcilable disagreement between the external team members and the host country experts or among the external experts or among the host country experts, the JEE team lead will decide the outcome; this will be noted in the final report along with the justification for each party's position.

Field visits

On Tuesday 2 Ma2y 023, the JEE team had the opportunity to visit the following institutions:

- Ministry of Health (including the Public Health Emergency Operations Centre)
- The Academy of Ministry of Emergency Services Emergency Preparedness and Response Training Centre
- The Port of Baku
- TABIB Veterinary Laboratory of the Food Safety Agency
- Centre for control of Especially Dangerous Infections

Limitations and assumptions

- The evaluation was limited to one week, which limited the amount and depth of information that could be managed.
- It is assumed that the results of this evaluation will be publicly available.
- The evaluation is not an audit. Information provided by Azerbaijan will not be independently verified but will be discussed and the evaluation rating mutually agreed to by the host country and the evaluation team. This is a peer-to-peer review.

Key host country participants and institutions

Name	Organization
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Ella Yusufova	Ministry of Health
Gunay Aliyeva	Ministry of Health
Konul Karimova	Ministry of Health
Qoshqar Orucov	Ministry of Health
Laman Qalimova	Ministry of Health
Mehriban Seyfaddinova	Ministry of Health
Nazifa Mursalova	Ministry of Health
Nabil Seyidov	Ministry of Health
Rita Ismaylova	Ministry of Health
Sabina Babazada	Ministry of Health
Sabina Ibrahimova	Ministry of Health
Samir Mehtiyev	Ministry of Health
Shabnam Mammadova	Ministry of Health
Shahla Ismaylova	Ministry of Health
Surxay Mammadov	Ministry of Health
Vuqar Mammadov	Ministry of Health
Vusala Safarova	Ministry of Health
Yadulla Balishov	Ministry of Health
Aytaj Qudratli	TABIB

Name	Organization
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Fidan Rustamova	TABIB
Kamran Qasimov	TABIB
Nahida Mahmudova	TABIB
Nigar Kazimova	TABIB
Ramin Aghayev	TABIB
Ramin Burjaliyev	TABIB
Rena Huseynova	TABIB
Turan Ibrahimova	TABIB
Yagut Garayeva	TABIB
Chingiz Gurbanov	The Ministry of Internal Affairs
Faiq Məhəmmədov	The Ministry of Internal Affairs
Baba Babayev	Ministry of Emergency Situations
Farah Aghalarova	Ministry of Emergency Situations
Gafur Hasanli	Ministry of Emergency Situations
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Matanat Qahramanova	Ministry of Emergency Situations
Parviz Valiyev	Ministry of Emergency Situations
Ulkar Quliyeva	Ministry of Emergency Situations
Ulviyya Mammadova	Ministry of Emergency Situations
Zakir Abdullayev	Ministry of Emergency Situations
Abilfaz Shamiyev	Seaport
Tamerlan Sadraddinov	Seaport
Tural Hajiyeu	Ministry of Digital Development and Transport
Shahla Latifova	Ministry of Ecology and Natural Resources
Aybaniz Dushdurova	Ministry of Ecology and Natural Resources
Gunay Salamova	State Customs Committee
Huseyn Qasimov	State Customs Committee
Javad Gasimov	State Customs Committee
Jeyhun Mammadov	State Customs Committee
Maazat Kazimova	State Customs Committee
Maharram Nabiyev	State Customs Committee
Rashad Akhmadov	State Customs Committee
Sabina Ibrahimova	Central Custom Hospital
Sahib Aghakishiyev	State Customs Committee
Seymur Muradov	State Customs Committee
Shahlar Mirqasim	State Customs Committee
Farid Quluzada	ITSDA
Jala Nasibova	ITSDA

Name	Organization
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Aynur Hasanova	AFSA
Aytan Hajiyeva	AFSA
Galib Abdulaliyev	AFSA
Ilaha Aliyeva	AFSA
Qiyasaddin Calladov	AFSA
Qumru Huseynova	AFSA
Shabnam Mammadova	AFSA
Tamilla Aliyeva	AFSA
Valida Sadixova	AFSA
Zakiyya Mustafayeva	AFSA
Zemfira Kazimova	AFSA
İmran Aliyev	Azerbaijan Airlines
Laura Alikhanova	Azerbaijan Airlines
Shalala Huseynova	Azerbaijan Airlines
Samira Nazarli	State Civil Aviation Agency

Relevant documentation

P1. Legal instruments

- Azərbaycan Respublikasının Baş Naziri (Qərargahın rəhbəri)
- Operativ Qərargahın üzvləri
- Azərbaycan Respublikası Baş Nazirinin müavini
- Azərbaycan Respublikası Prezidentinin köməkçiləri
- Azərbaycan Respublikası Prezidenti Administrasiyasının əməkdaşları
- Azərbaycan Respublikasının Birinci vitse-prezidentinin köməkçisi
- Azərbaycan Respublikasının Səhiyyə naziri
- Azərbaycan Respublikasının Daxili İşlər naziri
- Azərbaycan Respublikasının Fövqəladə Hallar naziri
- Azərbaycan Respublikasının Xarici İşlər naziri
- Azərbaycan Respublikasının Maliyyə naziri
- Azərbaycan Respublikasının İqtisadiyyat naziri
- Azərbaycan Respublikasının Əmək və Əhalinin Sosial Müdafiəsi naziri
- Azərbaycan Respublikasının Nəqliyyat, Rabitə və Yüksək Texnologiyalar naziri
- Azərbaycan Respublikasının Təhsil naziri
- Azərbaycan Respublikasının Ekologiya və Təbii Sərvətlər naziri
- Azərbaycan Respublikası Dövlət Gömrük Komitəsinin sədri
- Azərbaycan Respublikası Dövlət Təhlükəsizliyi Xidmətinin rəisi
- Azərbaycan Respublikası Xarici Kəşfiyyat Xidmətinin rəisi
- Azərbaycan Respublikası Dövlət Sərhəd Xidmətinin rəisi
- Azərbaycan Respublikası Qida Təhlükəsizliyi Agentliyinin sədri Bakı Nəqliyyat Agentliyinin İdarə Heyətinin sədri

- «Azərbaycan Hava Yolları» QSC-nin prezidenti
- Azərbaycan Respublikasının İcbari Tibbi Sığorta üzrə Dövlət Agentliyinin İdarə Heyətinin sədri
- Bakı Şəhər İcra Hakimiyyətinin başçısı
- Azərbaycan Respublikası Baş Nazirinin Katibliyinin rəisi.

P2. Financing

- No documentation provided.

P3. IHR coordination, NFP functions and advocacy

- Order of the Cabinet of Ministers of 2007 on implementing the International Health Regulations (2005)
- Order of the Ministry of Health on the provision of out-of-hours information (2007)
- Regulations on control and surveillance of particularly dangerous infectious diseases (2010)
- Regulations for biological safety in laboratories (2010)
- Guidelines for the operation of mobile teams during outbreaks of infectious diseases
- Guidelines for laboratory diagnostics of particularly dangerous infections (2013)
- Yoluxucu xəstəliklərin laborator diaqnostikası üzrə standart əməliyyat prosedurları (2016-cı il)
- Standard operating procedures for all particularly dangerous infectious diseases and 14 other infectious diseases
- Order of the Cabinet of Ministers of 30 January 2020 on response to the novel Coronavirus (2019-nCoV).

P4. AMR

- <https://pharma.az/dv-nezareti/qanunvericilik-dv-nezareti/qanunvericilik-4/>.
- Azərbaycan Respublikasında infeksiyaların profilaktikası və infeksiyon nəzarətin (İPİN) təkmilləşdirilməsi məqsədilə müvafiq sənədlərin hazırlanması işçi qrupun yaradılması barədə Səhiyyə Naziri tərəfindən imzalanmış 11.03 2022 ci il tarixli MİHO/1.3–3.1–2022–53 nömrəli Əmr.
- MİHO/1.3–3.1–2022–53 dated 11.03 2022 signed by the Minister of Health on the creation of a working group for the preparation of relevant documents for the purpose of improving IPC in the Republic of Azerbaijan.
- Azərbaycan Respublikasında infeksiyaların profilaktikası və infeksiyon nəzarət üzrə Milli Strategiya -təsdiq olunmayıb.
- The National Strategy for infection prevention and infection control in the Republic of Azerbaijan (not approved).
- Azərbaycan Respublikası infeksiyaların profilaktikası və infeksiyon nəzarət üzrə Fəaliyyət planı -təsdiq olunmayıb.
- Action plan for the prevention of infections and infection control of the Republic of Azerbaijan (not approved).
- Tibb müəssisələrində infeksiyon nəzarət işinin təşkil edilməsi barədə TABİB-in icraçı direktoru tərəfindən imzalanmış 04–19 nömrəli 20 «iyul» 2020-ci il tarixli Əmr.
- Order No. 04–19 dated 20 July 2020 signed by the executive director of TABIB on the organization of infection control work in medical institutions.
- Antibiotik istifadəsi ilə bağlı sorğu -Səhiyyə Nazirliyi.
- Inquiry about the use of antibiotics – Ministry of Health.
- Antibikrob preparatların səmərəli istifadəsi həftəsinin təşkilinə dair ƏMR-Səhiyyə Nazirliyi.
- Order-Ministry of Health on the organization of the week of efficient use of antimicrobial preparations.

P5. Zoonotic disease

- No documentation provided.

P6. Food safety

- Decree of the President of the Republic of Azerbaijan «» by the No. 1681 dated 13 November 2017.
- Article 30.1 of the Law of the Republic of Azerbaijan «On Food Safety» (on recall and withdrawal).
- Decree of the Cabinet of Ministers of the Republic of Azerbaijan of 30 April 1992 No. 239.
- «Crisis communication plan for the Food Safety Agency of the Republic of Azerbaijan», prepared and approved by the Order of the Chairman of the Food Safety Agency of the Republic of Azerbaijan No. Ü/47 dated 15 April 2022.
- Subsection 3.0.21 and 3.0.22 of the Decree of the President of the Republic of Azerbaijan «On ensuring the activities of the Food Safety Agency of the Republic of Azerbaijan» dated 13 November 2017 No. 1681.
- Subsection 8.3 of the «State Program on Ensuring Food Safety in the Republic of Azerbaijan for 2019–2025».
- Regulation on Investigation and Registration of Food Poisoning Incidents.
- Guideline on Food Poisoning Investigation.
- Law Of The Republic Of Azerbaijan «On Food Safety» No. 523-VIQ dated 5 May 2022.

P7. Biosafety and biosecurity

- Republic of Azerbaijan. Law of the Republic of Azerbaijan on Biosafety. 2013. Available at: <https://www.cbd.int/doc/world/az/az-nr-04-en.pdf>.
- Food and Agriculture Organization of the United Nations. Biosafety and biosecurity in Azerbaijan: an assessment of the legal and institutional framework. 2017. Available at: <http://www.fao.org/3/i8328en/I8328EN.pdf>.

P8. Immunization

- Strategy for vaccination against COVID-19 19 in the Republic of Azerbaijan for 2021–2022.
- Law of the Republic of Azerbaijan dated 22 December 2006 «On Medicines».

D1. National laboratory system

- Republic of Azerbaijan. Law of the Republic of Azerbaijan on Biosafety. 2013. Available at: <https://www.cbd.int/doc/world/az/az-nr-04-en.pdf>.
- Food and Agriculture Organization of the United Nations. Biosafety and biosecurity in Azerbaijan: an assessment of the legal and institutional framework. 2017. Available at: <http://www.fao.org/3/i8328en/I8328EN.pdf>.
- Legislation of the Republic of Azerbaijan «On Protection of Population Health» 1997
- Order No. 01/284 of ITSDA dated 23 September 2019 «On the establishment of the Working Group on standardization of laboratories in medical institutions»
- Standard operation procedures on Laboratory diagnostics of infectious diseases, 2010
- Rules on sanitary-epidemiological requirements in medical institutions (order 37, 2009)

D2. Surveillance

- Law of the Republic of Azerbaijan on sanitary-epidemiological safety.
- Order No.64 of the Law of the Republic of Azerbaijan on sanitary-epidemiological safety.

D3. Human resources

- D3. Human Resources, presentation by the responsible technical team during the external evaluation.

R1. Health emergency management

- Republic of Azerbaijan. Ministry of Health. 1992. «Law of the Republic of Azerbaijan on sanitary-epidemiological safety (Sanitariya-epidemioloji salamatlıq haqqında Azərbaycan Respublikasının Qanunu).» [<http://e-qanun.az/framework/7916>] accessed May 2023.
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- Republic of Azerbaijan. Ministry of Emergency Situations. «Activity fields.» [<http://www.fhn.gov.az/?eng/menu/20>] accessed May 2023.
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- Republic of Azerbaijan. Ministry of Health. Centre for Public Health and Reforms (ISIM). 2020. Website. [<https://isim.az/en/main>] accessed May 2023.
- Decree of the President of the Republic of Azerbaijan on the approval of the «Agreement on cooperation in the field of emergency management between the Government of the Republic of Azerbaijan and the Government of the Republic of Türkiye» signed in Baku on 9 August 2006.
- Azerbaijan National Academy of Science cooperation agreements: [<http://bei.science.gov.az/uploads/imzalanmishsenedler/Muqavile%202018%20-%20eng.pdf>] accessed May 2023.
- Decree 377: internal action plan for the COVID-19 pandemic response in Azerbaijan.
- Decree 239: state management 1992 – Committee for emergency management and response, involving the Ministry of Defence and the Ministry of Emergency Situations.
- Azerbaijan's National Disaster Response Plan: outlines roles, responsibilities and coordination mechanisms for national and regional actors during disaster response operations (CONFIDENTIAL).
- Civil Defense Plan: a comprehensive plan covering a five-year period that describes functions and responsibilities of various actors in emergency response and management (CONFIDENTIAL).
- National Public Health Emergency Operations Centre (PHEOC) Handbook: a document outlining the structure, functions and protocols for Azerbaijan's PHEOC (CONFIDENTIAL).
- Joint Action Plans: these plans involve interagency collaboration, such as those between the Ministry of the Environment and the Ministry of Agriculture to address specific health emergencies, such as rabies (CONFIDENTIAL).
- Aliyeva S, Flanagan P, Johnson A, Strelow L. Towards the Development of a Sustainable Scientific Research Culture in Azerbaijan (2011–2015). *Front Public Health*. 2016;4:144. doi: 10.3389/fpubh.2016.00144.
- Global Health Security Index. «Azerbaijan.» [<https://www.ghsindex.org/wp-content/uploads/2021/12/Azerbaijan.pdf>] accessed May 2023

R2. Linking public health and security authorities

- Republic of Azerbaijan. Ministry of Health. 1992. «Law of the Republic of Azerbaijan on sanitary-epidemiological safety (Sanitariya-epidemioloji salamatlıq haqqında Azərbaycan Respublikasının Qanunu).» [<http://e-qanun.az/framework/7916>] accessed May 2023.
- Republic of Azerbaijan. Ministry of Emergency Situations. «Activity fields.» [<http://www.fhn.gov.az/?eng/menu/20>] accessed May 2023.
- Republic of Azerbaijan. Ministry of Health. 2020. Website. [<http://health.gov.az/>] accessed May 2023.
- Republic of Azerbaijan. Ministry of Health. Centre for Public Health and Reforms (ISIM). 2020. Website. [<https://isim.az/en/main>] accessed May 2023.
- Decree 973 of the President of the Republic of Azerbaijan on the approval of the «Agreement on cooperation in the field of emergency management between the Government of the Republic of Azerbaijan and the Government of the Republic of Türkiye» signed in Baku on 9 August 2006. <https://e-qanun.az/framework/33> 209
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- Azerbaijan's National Disaster Response Plan: outlines roles, responsibilities and coordination mechanisms for national and regional actors during disaster response operations (CONFIDENTIAL).
- Civil Defense Plan: a comprehensive plan covering a five-year period that describes functions and responsibilities of various actors in emergency response and management (CONFIDENTIAL).
- National Public Health Emergency Operations Centre (PHEOC) Handbook: a document outlining the structure, functions and protocols for Azerbaijan's PHEOC (CONFIDENTIAL).
- Joint Action Plans: these plans involve interagency collaboration, such as those between the Ministry of Ecology (the Ministry of the Environment) and the Ministry of Agriculture to address specific health emergencies, such as rabies (CONFIDENTIAL).

R3. Health services provision

- Rules/guidelines on response and surveillance of special dangerous diseases Order 64
- COVID-19 yoluxmuş şəxslərin evdə klinik idarə edilməsi
- Azərbaycan Respublikası Səhiyyə Nazirliyi kollegiyasının 4 aprel 2009-cu il tarixli 10 sayılı qərarı ilə təsdiq edilmişdir. YANIQLARIN DİAQNOSTİKA VƏ MÜALİCƏSİ ÜZRƏ KLİNİK PROTOKOL
- <https://isim.az/az/reports/5-Klinik-protokollar>.

R4. Infection prevention and control

- Guidelines on core components of IPC programmes at the national and acute health care facility level. World Health Organization. <https://www.who.int/publications/i/item/9789241549929>.
- Minimum requirements for infection prevention and control programmes. World Health Organization. <https://www.who.int/publications/i/item/9789241516945>.
- MIHO/1.3–3.1–2022–53 dated 11.03 2022 signed by the Minister of Health on the creation of a working group for the preparation of relevant documents for the purpose of improving IPC in the Republic of Azerbaijan.
- The National Strategy for infection prevention and infection control in the Republic of Azerbaijan (not approved).
- Action plan for the prevention of infections and infection control of the Republic of Azerbaijan (not approved).
- Order No. 04–19 dated 20 July 2020 signed by the executive director of TABIB on the organization of infection control work in medical institutions.

R5. Risk communication and community engagement

- State Agency for Mandatory Health Insurance Crisis Communication Plan.
- Order of the Cabinet of Ministers of 30 January 2020 on response to the novel Coronavirus (2019-nCoV).
- Risk communication and community engagement: a compendium of case studies in times of COVID-19 published by the WHO Regional Office for Europe in October 2022. See case study: Azerbaijan's 24/7 COVID-19 hotline helps identify and 34 answer public concerns

PoEs and border health

- Reports of self-assessment of PoE.

CE. Chemical events

- No documentation provided.

RE. Radiation emergencies

- Implementation of control over the import and export of radioactive ionizing radiation sources according to the List approved by the Law of the Republic of Azerbaijan «On Export Control», Decision No. 230 of the Cabinet of Ministers of the Republic of Azerbaijan dated 15 December 2005.
- According to subsection 2.1.6 of the «Rules for Issuing Special Permits for Activities Related to Extraction, Production, Processing, Transport and Use of Radioactive Substances» approved by Cabinet of Ministers Decision No. 42 dated 12 April 2004, the state for the transportation of radioactive substances issuance of a sanitary-hygienic opinion by sanitary control bodies.
- Health in the radiological-hygienic passport of enterprises and organizations using ionizing radiation sources according to the «Regulation on the form and preparation of radiological-hygienic passports of territories, enterprises and organizations» approved by the Resolution No. 134 of the Cabinet of Ministers of the Republic of Azerbaijan dated 25 August 1999 Providing the opinion of the sanitary-epidemiological control service of the Ministry.
- Conducting radiation control over the individual doses of employees of enterprises and organizations that use ionizing radiation sources according to the «Regulation on accounting and control of individual radiation doses» approved by the Resolution No. 134 of the Cabinet of Ministers of the Republic of Azerbaijan dated 25 August 1999.
- Resolution No. 76 of the Cabinet of Ministers of the Republic of Azerbaijan dated 11 July 1997 «On measures to strengthen radiation safety control in the territory of the Republic of Azerbaijan»
- Law of the Republic of Azerbaijan «On radiation safety of the population» dated December 30, 1997 No. 423–1Q.
- Law No. 371 of the Republic of Azerbaijan «On Sanitary and Epidemiological Safety», 1 November 1992.
- Order No. 37 dated 7 April 2009 of the Republic of Azerbaijan «On the approval of the Rules for sanitary-epidemiological requirements in medical institutions».

