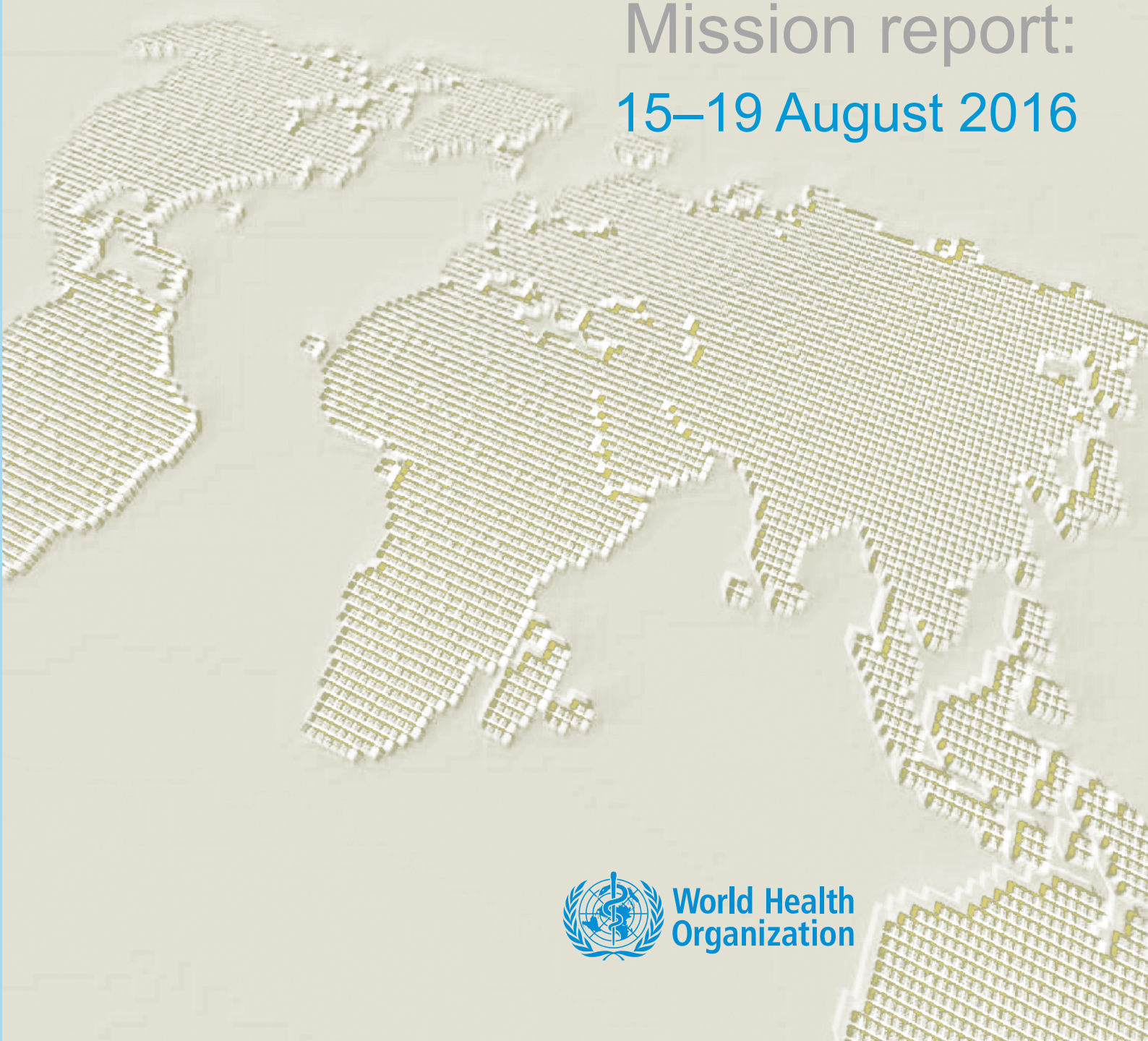
JOINT EXTERNAL EVALUATION OF IHR CORE CAPACITIES

of the

REPUBLIC OF ARMENIA

Mission report:

15–19 August 2016



World Health Organization

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Contents

Executive summary

Background

By requesting a joint external evaluation (JEE) the Republic of Armenia (henceforth mentioned as 'Armenia') has demonstrated a strong commitment to global health security and core national capacities required by the International Health Regulations (IHR) (2005). This is the second JEE process completed in the World Health Organization (WHO) European Region and the tenth globally. The evaluation was carried out in Yerevan, Armenia on 15–19 August 2016 jointly by Armenian experts and external subject matter experts. The team of external experts consisted of individuals selected from peer countries on the basis of their recognized technical expertise, as well as advisors representing international organizations including the WHO.

The authorities in Armenia warmly welcomed the external evaluation team. The country's priority towards health security and its allied services is very clear. The Armenian Government brought together various sectors for which this external evaluation was relevant, as well as other organizations and in-country experts (at short notice) who the JEE team wished to interview as part of the assessment. However, due to the timescales involved only a small number of the supporting documentation was made available in English, and therefore some of the conclusions of the assessment are based on the information provided verbally by the national team during the discussions.

The entire team presented the results of the assessment and observations of the Armenia's health security preparedness to the Deputy Minister of Health, Sergey Khachatryan at the Ministry of Health (MoH) in Yerevan, Armenia, on 19 August 2016.

Findings from the JEE

- There is pronounced political will and extensive national legislation in place to support the implementation of the IHR (2005) in Armenia. National policies that are in place will facilitate core and expanded functions of the national IHR focal point to strengthen core capacities incorporated within the new Public Health Law.
- Coordination mechanisms between the relevant ministries are outlined in a series of standard operating procedures (SOPs), which in turn are enacted in a number of legally binding decrees by the Armenian Government, the MoH, and those jointly issued by different line ministries.
- The human health sector in Armenia had its antimicrobial resistance capability assessed in 2012 by an expert team from WHO and published a report with recommendations that have been turned into practice. However, Armenia needs further enhancement within the animal sector.
- Armenia has implemented a number of activities to introduce the One Health approach in the country. The main partners for an integrated approach in the control of zoonotic diseases are the MoH, Ministry of Agriculture (MoA), and other relevant parties involved in activities. Within the structure of the MoH an intersectoral expert taskforce for zoonotic diseases has been established. Surveillance systems for zoonotic diseases in both human and animal health sectors are in place.
- Armenia has surveillance and response capacity for foodborne and waterborne diseases. Outbreaks are investigated by multidisciplinary and multisectoral rapid response teams consisting of State Food Security Service (SFSS) experts and public health experts from the National Center for Disease Control and Prevention (NCDC)/MoH.

- Armenia has a good system of biosafety and biosecurity and the Government regulates storage and transport of pathogens. Annual recording and reporting of particularly dangerous pathogens is performed using the established inventory tool. There is a biosafety programme for managers and public health officers. Further work is required regarding international accreditation of laboratories in Armenia (including veterinary laboratories) and the licensing of laboratories needs to be made compulsory.
- Armenia has a strong national immunization programme that was started in 2005. Comprehensive multiyear plans are developed every four to five years.
- The public health laboratory system in Armenia consists of a universal laboratory network, which is regulated by the MoH. Armenia significantly reformed their laboratory services aiming at developing legislation to support the laboratory system, as well as introducing a comprehensive laboratory network, quality management system and external quality assurance (EQA) scheme.
- Armenia has developed thorough sustainable capabilities for the detection of events of significance for human and animal health. The existence of multiple independent surveillance systems (including indicator-based and event-based surveillance systems) to detect human health threats has been demonstrated. The information in the human health surveillance system is processed within an interoperable, interconnected, electronic reporting system; however, real-time sharing of notification data is not yet implemented. The human health sector needs to collaborate with the animal sector through interconnected electronic reporting of zoonotic diseases.
- Armenia has an operational national IHR focal point located within the MoH. There is also an operational OIE focal point established within the MoA. Information sharing and coordination mechanisms are established amongst other national ministries and the national IHR focal point.
- Owing in part to the security situation in the region, Armenia has dedicated significant efforts to ensuring that sufficient human resource capacities are in place to implement IHR (2005). Bilateral and multilateral agreements are in place for sending and receiving personnel, and deployments from Armenia to other countries have taken place.
- Preparedness is an area that receives a lot of attention in Armenia, and this is a strong point in the country's implementation of IHR (2005). Emergency response plans have been prepared for a variety of scenarios, and each of these contains specific provisions pertaining to public health. The Ministry of Emergency Situations (MES) performs risk assessments and updates the national risk profile on an annual basis, maps resources and ensures that critical stock levels are maintained.
- Armenia has developed a very well defined emergency response system involving all tiers of the administrative mechanism. The country has high-level capability to activate any of the emergency response operations including emergency operations centres (EOCs) within the required timeframe of two hours. Armenia has the capacity to activate response operations including those requiring human surge capacities.
- A legal framework for sending and receiving medical countermeasures and personnel deployment is in place. Armenia has a great capacity to link public health and law enforcement, including the investigation of alleged deliberate use events. However, there is need for continuous joint training between the different sectors including with the law enforcement and security.
- Armenia does not have a multi-hazard risk communication plan, but communication procedures are included in all available emergency response plans. Every ministry has a public relations department, trained spokespersons, and every senior manager has an appointed press person. Public risk communication in Armenia is transmitted through a mix of channels. There is a need for more proactive engagement of communities to further strengthen the already developed risk communication system in Armenia.

- Armenia has seven points of entry (two airports, one rail station and four ground crossings) of which two have been officially designated for developing public health capacities as outlined within the IHR (2005) – the Zvartnots International Airport in Yerevan, and the Bagratashen ground crossing that shares its border with Georgia. In the borderline entry points, the capacities of the MoH are being implemented through the borderline medical-sanitary inspection points of the State Health Inspectorate. Activities are underway to nominate the rest of the borderline entry points as entities to ensure the capacities required under the IHR.
- Armenia has a developed system for surveillance and response to chemical events that is supported by a legislative framework. The framework, however, is complex and a "unified chemical law" would aid clarity in both preparedness and response. There is a public health plan for the management of chemical incidents and a national coordinating body for chemical safety. Armenia needs to establish a "poisons centre" as a coordination activity rather than build a physical centre. Also, a mandatory registration system for chemical sites is needed.
- Armenia has a strong history in the radiological protection field. There is a well-developed radiation emergency response plan with SOPs, which is exercised regularly. There are some reference health care facilities with equipment and experienced staff; however, national integrated laboratory capacity needs to be developed and financial resources are required to maintain current activities in the future.

In summary, Armenia is close to achieving compliance with IHR (2005). In the discussions between the external evaluation team and the national representatives from all the relevant sectors it was evident that there is a high willingness and commitment towards meeting the remaining IHR requirements. Investments to fill some of the identified gaps will be needed. These can be done by the existing expertise in the country or by a combination of national measures and investment and support from international partners. This report should be used as a strong lever to engage partners into a dialogue to develop a plan of action to implement the identified priority actions. This responsibility lies equally with the Government of Armenia and its international partners.

Armenia scores

Capacities	Indicators	Score
National legislation, policy and financing	P.1.1 Legislation, laws, regulations, administrative requirements, policies or other government instruments in place are sufficient for implementation of IHR (2005)	5
	P.1.2 The State can demonstrate that it has adjusted and aligned its domestic legislation, policies and administrative arrangements to enable compliance with the IHR (2005)	5
IHR coordination, communication and advocacy	P.2.1 A functional mechanism is established for the coordination and integration of relevant sectors in the implementation of IHR (2005)	5
Antimicrobial resistance	P.3.1 Antimicrobial resistance (AMR) detection	3
	P.3.2 Surveillance of infections caused by AMR pathogens	3
	P.3.3 Health care associated infection prevention and control programmes	4
	P.3.4 Antimicrobial stewardship activities	4
Zoonotic disease	P.4.1 Surveillance systems in place for priority zoonotic diseases/pathogens	5
	P.4.2 Veterinary or animal health workforce	5
	P.4.3 Mechanisms for responding to zoonoses and potential zoonoses are established and functional	5
Food safety	P.5.1 Mechanisms are established and functioning for detecting and responding to food-borne disease and food contamination.	5
Biosafety and biosecurity	P.6.1 Whole-of-government biosafety and biosecurity system is in place for human, animal and agriculture facilities	4
	P.6.2 Biosafety and biosecurity training and practices	4
Immunization	P.7.1 Vaccine coverage (measles) as part of national programme	5
	P.7.2 National vaccine access and delivery	5
National laboratory system	D.1.1 Laboratory testing for detection of priority diseases	4
	D.1.2 Specimen referral and transport system	4
	D.1.3 Effective modern point of care and laboratory based diagnostics	4
	D.1.4 Laboratory quality system	4
Real-time surveillance	D.2.1 Indicator and event based surveillance systems	4
	D.2.2 Interoperable, interconnected, electronic real-time reporting system	3
	D.2.3 Analysis of surveillance data	5
	D.2.4 Syndromic surveillance systems	4
Reporting	D.3.1 System for efficient reporting to WHO, FAO and OIE	3
	D.3.2 Reporting network and protocols in country	3
Workforce development	D.4.1 Human resources are available to implement IHR core capacity requirements	5
	D.4.2 Field epidemiology training programme or other applied epidemiology training program in place	5
	D.4.3 Workforce strategy	5

Preparedness	R.1.1 Multi-hazard national public health emergency preparedness and response plan is developed and implemented	5
	R.1.2 Priority public health risks and resources are mapped and utilized	5
Emergency response operations	R.2.1 Capacity to activate emergency operations	5
	R.2.2 Emergency operations center operating procedures and plans	5
	R.2.3 Emergency operations programme	5
	R.2.4 Case management procedures are implemented for IHR relevant hazards	5
Linking public health and security authorities	R.3.1 Public health and security authorities, (e.g. law enforcement, border control, customs) are linked during a suspect or confirmed biological event	5
Medical countermeasures and personnel deployment	R.4.1 System is in place for sending and receiving medical countermeasures during a public health emergency	5
	R.4.2 System is in place for sending and receiving health personnel during a public health emergency	5
Risk communication	R.5.1 Risk communication systems (plans, mechanisms, etc.)	4
	R.5.2 Internal and partner communication and coordination	5
	R.5.3 Public communication	5
	R.5.4 Communication engagement with affected communities	4
	R.5.5 Dynamic listening and rumour management	5
Points of entry	PoE.1 Routine capacities are established at points of entry	3
	PoE.2 Effective public health response at points of entry	4
Chemical events	CE.1 Mechanisms are established and functioning for detecting and responding to chemical events or emergencies.	4
	CE.2 Enabling environment is in place for management of chemical events	4
Radiation emergencies	RE.1 Mechanisms are established and functioning for detecting and responding to radiological and nuclear emergencies	5
	RE.2 Enabling environment is in place for management of radiation emergencies	5

PREVENT

National legislation, policy and financing

Introduction

The 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 in a more effective manner. 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 at (http://www.who.int/ihr/legal_issues/legislation/en/index.html). In addition, policies which identify national structures and responsibilities as well as the allocation of adequate financial resources are also important.

Target

States Parties should have an adequate legal framework to support and enable the implementation of all of their obligations and rights to comply with and implement the IHR (2005). In some States Parties, implementation of the IHR (2005) may require new or modified legislation. Even where new or revised legislation may not be specifically required under the State Party's legal system, States may still choose to revise some legislation, regulations or other instruments in order to facilitate their implementation and maintenance in a more efficient, effective or beneficial manner.

States parties should ensure provision of adequate funding for IHR implementation through national budget or other mechanism.

Armenia level of capabilities

Armenia has attained sustainable capacities for national legislation, policy and financing to implement IHR (2005). Armenia has extensive national legislation in the context of IHR implementation The designated national IHR focal point, located in the MoH, is now coordinating legal and regulatory frameworks for the implementation of the IHR (2005) between sectors in Armenia. National policies are in place that facilitate core and expanded functions of the national IHR focal point and strengthen core capacities incorporated within the new Public Health Law. This new Public Health Law aims to harmonize legislation in different sectors and promotes the integration of legislation of different sectors within the framework of IHR (2005) implementation at all levels of the country.

The development of further bilateral international agreements with other countries needs to be strengthened. This also includes the application of new approaches, such as the "One Health" concept.

Recommendations for priority actions

- Conduct periodic reviews of existing legislation for IHR implementation to identify legislative gaps and duplications.

- Expedite the adoption of the new Public Health Law: The new Law should support the integration of legislation of different sectors and different levels. Therefore, it is recommended to promote the adoption of this key legal document in the whole country.
- Develop SOPs for the implementation of national legislation at regional level.
- Continue to raise awareness about IHR implementation in all sectors, including in relation to the rights and obligations of Armenia since 2007. As the competency for IHR implementation of some capacities lies predominantly in the responsibility of other sectors, such as animal health or transport, the awareness of other sectors needs to be strengthened.

Indicators and scores

P.1.1 Legislation, laws, regulations, administrative requirements, policies or other government instruments in place are sufficient for implementation of IHR (2005) – Score 5

Strengths/best practices

- There is pronounced political will to support IHR (2005) implementation.
- Extensive national legislation (with more than 400 legal texts) is in place to support IHR (2005) implementation. The existing national legislation in the framework of IHR (2005) implementation covers multiple sectors, such as human health, animal health, environmental health.
- Bilateral contracts with approximately 25 countries facilitate IHR (2005) implementation with these countries, taking into account the management of public health emergencies.

Areas that need strengthening/challenges

- The implementation of the One Health concept needs to be developed and improved. This includes horizontal interconnection of different established programmes of various sectors with formal and informal exchanges between the stakeholders. Such an intensified exchange between sectors would facilitate rapid response during public health emergencies.

P.1.2 The State can demonstrate that it has adjusted and aligned its domestic legislation, policies and administrative arrangements to enable compliance with the IHR (2005) – Score 5

Strengths/best practices

- The national legislation is managed with a multidisciplinary approach, i.e. legal texts are developed jointly between different ministries. Further, all legal documents are available online on one cross-sectorial website (www.arlis.am; however, most of them are in Armenian only).

Areas that need strengthening/challenges

- The development of further bilateral international agreements with other countries needs to be strengthened. This also includes the application of new approaches such as the One Health concept.

IHR coordination, communication and advocacy

Introduction

The effective implementation of the IHR requires multisectoral/multidisciplinary approaches through national partnerships for effective alert and response systems. Coordination of nation-wide resources, including the designation of an IHR NFP, which is a national center for IHR communications, is a key requisite for IHR implementation.

Target

The NFP should be accessible at all times to communicate with the WHO IHR Regional Contact Points and with all relevant sectors and other stakeholders in the country. States Parties should provide WHO with contact details of NFPs, continuously update and annually confirm them.

Armenia: level of capabilities

A soon to be adopted Public Health Law will provide an over-arching framework stipulating the roles and responsibilities of different ministries and agencies. Coordination mechanisms between the relevant ministries are outlined in a series of SOPs, which in turn are enacted in a number of legally binding decrees by the Government, MoH, and jointly issued by different line ministries. The National Emergency Commission is the multisectoral, multidisciplinary body that coordinates surveillance and response during public health emergencies. While Armenia has not experienced an event of national or international concern in recent times, exercises are conducted four to five times a year, including one full scale "live exercise" per year, lasting several days and involving multiple sectors. The periodicity of these training exercises is established by Government decree. Major exercises are followed-up by after-action reports documenting lessons learnt and recommending measures to be taken to strengthen preparedness and response, including coordination mechanisms. Experience to date indicates that these recommendations are implemented in practice. Multiple sectors contribute to the preparation of annual IHR progress reports and self-evaluations, which are subsequently summarized by the national IHR focal point and disseminated though the MoH website.

Recommendations for priority actions

No priority actions were identified in this area.

Indicators and scores

P.2.1 A functional mechanism is established for the coordination and integration of relevant sectors in the implementation of IHR – Score 5.

Strengths/best practices

- Strong political support for IHR implementation.
- Formalized coordination mechanisms under the new Public Health Act will provide an over-arching framework outlining the roles and responsibilities of different ministries and agencies.

- Multisectoral coordination mechanisms are outlined in a series of SOPs and enacted in a series of binding decrees.
- Continuous improvement: Periodic tests are conducted, following which lessons learnt are recorded in after-action reports and recommendations are subsequently implemented to improve practices.

Areas that need strengthening/challenges

- The One Health concept needs to be further disseminated to create a shared understanding of the synergies across human, animal and environmental health sectors.
- Notwithstanding the many formal mechanisms for intersectoral collaboration, there remains a strong tradition of working though vertical programmes. There is scope for strengthening the culture to foster informal collaborations across sectors.

Antimicrobial resistance

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. The evolution of antimicrobial resistance (AMR) is occurring 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

Support work being coordinated by WHO, FAO, and OIE to develop an integrated and global package of activities to combat antimicrobial resistance, spanning human, animal, agricultural, food and environmental aspects (i.e. a one-health approach), including: a) Each country has its own national comprehensive plan to combat antimicrobial resistance; b) Strengthen surveillance and laboratory capacity at the national and international level following agreed international standards developed in the framework of the Global Action Plan, considering existing standards and; c) Improved conservation of existing treatments and collaboration to support the sustainable development of new antibiotics, alternative treatments, preventive measures and rapid, point-of-care diagnostics, including systems to preserve new antibiotics.

Armenia: level of capabilities

The human health sector in Armenia had its antimicrobial resistance capability assessed in 2012 by an expert team from WHO Regional Office for Europe. The recommendations from the published report of the assessment have been turned into practice. A national focal point was appointed in 2015 and a national antimicrobial resistance strategy was put into place for 2015–2020.

The Netherland PHI and WHO are planning a proof-of-principle antimicrobial resistance routine diagnostics surveillance study in hospitals to further assess the situation in Armenia and identify the use of antibiotics in hospitals. The next five-year strategy for nosocomial infections will be developed to start in 2017. A health care associated infection control strategy is in place and training is being conducted for health care workers in designated health facilities. Monitoring of rational use of drugs in hospitals and pharmacies is ongoing.

Furthermore, an antimicrobial resistance surveillance system is in development in the veterinary sector and there is a will for further collaboration between the human and animal health sectors. However, the veterinary sector is not as advanced as the human health sector.

Recommendations for priority actions

- Establish integrated national (agriculture, veterinary and human sector) epidemiological surveillance system and expand to as many facilities/systems as possible.
- Further regulate the agricultural sector and start an antimicrobial resistance surveillance system.
- Finalize the next five-year plan (2017–2021) for in-hospital nosocomial infections information and management.

- Expand and improve systems required for the rational use of antibiotics.

Indicators and scores

P.3.1 Antimicrobial resistance (AMR) detection – Score 3

P.3.2 Surveillance of infections caused by AMR pathogens – Score 3

The two indicators were discussed as a single package as they are so closely related. Scores would be 4 if the veterinary sector had been more developed.

Strengths/best practices

- AMR Prevention and Control Strategy 2015 and Nosocomial Infection Prevention and Control Strategy 2012 are in place.
- A permanent task force is in place since 2015.
- Interagency conference was held in 2015 with national AMR training.
- 10 provinces involved in antimicrobial resistance surveillance
- Interministerial antimicrobial resistance meeting was held in 2016.
- Indicators exist on antimicrobial resistance and tuberculosis (TB).
- Antimicrobial resistance detection system functions but is not integrated with the animal sector.
- Sentinel surveillance sites are available: four selected medical facilities; two pediatric and two adult hospitals. Reference laboratory for antimicrobial resistance surveillance was established in 2013.
- European Committee on Antimicrobial Susceptibility Testing (EUCAST) standards development in blood testing is in progress.
- EQA scheme is active from mid- September 2016.
- TB management strategy was approved in 2016.
- 2015 guidelines for antimicrobial resistance surveillance are in place.
- A list of antimicrobial-resistant priority pathogens has been created.
- International training was achieved in EUCAST.

Areas that need strengthening/challenges

- Sentinel surveillance sites in the animal sector are not yet selected.
- Animal sector is not included in the planned population study.
- Agricultural sector has no formal Epi surveillance system – but some plans exist.
- Quality of laboratory testing needs to be strengthened.
- SOPs are in place at regional and local levels.
- All legal grounds including best practices should be in place.
- Strengthen antimicrobial resistance surveillance at national, regional and local levels.
- Antibiotics use in the agriculture sector needs monitoring, perhaps though small animal private practice.
- Integration of agriculture and human surveillance is crucial for the system to progress.

P.3.3 Health care associated infection prevention and control programmes – Score 4

Strengths/best practices

- Health care associated infection strategy approved by the Government is in place.
- Training at all levels has been implemented.
- All levels of health care are involved in infection control measures.
- Infection control focal points at hospitals have been appointed.
- Tertiary hospital with capacity for isolation is in place.
- Staff behaviour is checked regularly.
- SOPs are in place for hepatitis B.
- Funded hospital epidemiologists are in place.
- Health care associated infection is part of the clinical training curriculum.

Areas that need strengthening/challenges

- There is a need to expand the number of medical facilities that work on hospital infections.
- Antibiotic use monitoring and antimicrobial resistance drug register need to be in place.

P.3.4 Antimicrobial stewardship activities – Score 4

Strengths/best practices

- Monitoring of rational use of drugs in hospitals and pharmacies.
- Survey of pharmacies done in 2014.
- In a 2011 study of antibiotic usage in non-European Union southern and Eastern European countries, Armenia's overall antibiotic use was consistently lower than other countries surveyed.[1]
- No incentive for selling antibiotics without prescription in Armenia from fall 2016 due to the new law.

Areas that need strengthening/challenges

- No areas are in need of strengthening.

[1] http://www.euro.who.int/__data/assets/pdf_file/0006/246471/Lancet-article-Antibiotic-use-in-eastern-Europe-a-cross-national.pdf?ua=1

Zoonotic disease

Introduction

Zoonotic diseases are communicable diseases and microbes spreading between animals and humans. These diseases are caused by bacteria, viruses, parasites, and fungi that are carried by animals and insect or inanimate vectors may be needed to transfer the microbe. Approximately 75% of recently emerging infectious diseases affecting humans is of animal origin; approximately 60% of all human pathogens are zoonotic.

Target

Adopted measured behaviors, policies and/or practices that minimize the transmission of zoonotic diseases from animals into human populations.

Armenia: level of capabilities

Armenia has implemented a number of activities to introduce the One Health approach. While the main partners for an integrated approach in the control of zoonotic diseases are MoH and MoA, other relevant stakeholders (such as Ministry of Nature Protection for Wildlife Animals) are also involved in activities. Within the structure of the MoH an intersectoral expert taskforce for zoonotic diseases has been established. Surveillance systems for zoonotic diseases in both human and animal health sectors are in place. The list of 85 communicable diseases that are subject to reporting in Armenia includes zoonotic diseases with respective human and animal case definitions. The electronic integrated disease surveillance system (EIDSS) is likely to enhance timely exchange of information between sectors that are currently based on official correspondence. The EIDSS has already been developed but is not yet fully operational. Entomological surveillance, monitoring of rodent populations, and surveillance of the bird population are some of the other activities that are routinely performed and analyzed using GIS mapping to assess potential risk of zoonotic events. Livestock population estimates are developed by the National Statistical Service (NSS) each year. Laboratory capacities to support a strong surveillance system for zoonotic diseases could be strengthened and expanded, especially in the animal sector.

In 2014, a joint decree of the MoH and MoA defined a list of eight priority zoonotic diseases of greatest public health concern: anthrax, avian influenza, brucellosis, glanders, leptospirosis, rabies and tuberculosis. Based on a strong legal framework, guidelines and SOPs have been developed to jointly detect, prevent and respond to these priority diseases. State guaranteed indemnities are in place to compensate for loss of animals due to epidemics. Several exercises have been conducted to practice and test the skills of both human and animal health workers to investigate and respond to zoonotic events as rapid response teams, in a coordinated and collaborative manner (e.g. avian influenza, anthrax and brucellosis). A number of activities were implemented to introduce the One Health approach within the framework of the United States Cooperative Biological Engagement Program (CBEP). For that purpose regional training and exercises on brucellosis were conducted in 2015 with participation of all relevant stakeholders and international experts from the United States and neighbouring Georgia. Armenia has already demonstrated its capacity to control outbreaks of zoonotic diseases on several occasions. Timely detection followed by rapid joint responses have helped the country to control outbreaks of brucellosis and anthrax in the past.

Veterinarians regularly participate in the South Caucasus FELTP and MediPIET. A plan for continuous education of public health aspects in animal health has been developed and implemented involving all

levels. Currently around 650 veterinarians are operating in the communities on a contractual basis. The SFSS of the MoA organizes short-term training and updating of information for veterinary specialists engaged in response to zoonotic events.

Recommendations for priority actions

- Further strengthen the One-Health concept by integrating human and animal surveillance systems through full operationalization of the already existing EIDSS.
- Further enhance the use of surveillance data in order to facilitate risk assessment of zoonotic diseases (such as analysis of research questions, geographic information system (GIS) mapping and research).
- Ensure further professional development of veterinarians with a focus on the local (community) level, through implementation of the existing plan for continuous training of staff.
- Perform a comprehensive retrospective review of multisectoral response to zoonotic events to evaluate early detection, and timely and rapid response to these events.

Indicators and scores

P.4.1 Surveillance systems in place for priority zoonotic diseases/pathogens – Score 5

Strengths/best practices

- Implementation of the One Health concept was started in 2015.
- Intersectoral expert taskforce has been established.
- Surveillance systems for zoonotic diseases are in place for both animal and human sectors.
- Integrated approach with timely sharing of relevant information.
    - EIDSS will further enhance data exchange, and laboratories from animal and human sectors will be directly linked.
- Joint decree by MoH and MoA has defined a list of eight priority zoonotic diseases.
- Several decrees, guidelines and SOPs developed to facilitate the implementation of the One Health approach to zoonotic events of public health concern.
- Surveillance of relevant vectors (wild birds, rodent populations, etc.) are in place and used for risk assessments.
- Laboratory capacities exist in animal and human health sectors.

Areas that need strengthening/challenges

- EIDSS is in place but not yet fully operational.
- Owners/farmers may only report animal diseases for which indemnities are paid.
- Existing information can be put to better use if it is in a common database (such as for research purposes).
- Laboratory capacities to support a strong surveillance system for zoonotic diseases could be strengthened and expanded especially in the animal sector.

P.4.2 Veterinary or animal health workforce – Score 5

Although the number of veterinarians operating at the local level is more than sufficient (>600), it was not clear what proportion of them have been trained in the One Health approach and public health aspects of animal health.

Strengths/best practices

- Sufficient animal workforce capacities to support the One Health approach at national level and in all regions.
- Veterinarians regularly participate in the South Caucasus FELTP and will also be enrolled in the MediPIET in the near future.
- A plan for continuous education of public health aspects in animal health is in place.
- More than 600 veterinarians operating in the communities is a sound foundation for conducting One Health activities at the local level.

Areas that need strengthening/challenges

- Proportion of veterinary field staff and community animal health care providers already trained in the One Health approach and public health aspects in animal health may not yet be sufficient to cover all the needs at the community level.

P.4.3 Mechanisms for responding to zoonoses and potential zoonoses are established and functional – Score 5

As no system is in place to systematically monitor and evaluate response to zoonotic events, this score is based more on assumptions than on evidence.

Strengths/best practices

- One Health approach with strong intersectoral cooperation and collaboration for responding to zoonoses and potential zoonoses.
- Guidelines with SOPs for joint approach in the detection and control of all priority zoonotic diseases have been developed.
- Several exercises as well as real events have shown proof that the country is able to respond in time to zoonotic events of potential national and international concern.

Areas that need strengthening/challenges

- Routine system for monitoring and evaluation of response activities to zoonotic events needs to be established.

Food safety

Introduction

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

States parties should have surveillance and response capacity for food and water borne diseases' risk or events. It requires effective communication and collaboration among the sectors responsible for food safety and safe water and sanitation.

Armenia: level of capabilities

The SFSS of the MoA is the food safety authority in Armenia. The SFSS is responsible for the legislative regulation of food safety; it carries out supervision, and in some cases may take disciplinary action. The Service carries out its activities in accordance with the legislation of the Republic of Armenia and other legislative acts. In 2015, Armenia became a full member of the Eurasian Economic Union and thereby food safety activities are regulated by bilateral agreements and cooperation with third party countries.

Armenia has surveillance and response capacity for foodborne and waterborne diseases. Outbreaks are investigated by multidisciplinary and multisectoral rapid response teams consisting of SFSS experts and public health experts from the NCDC/MoH. The SFSS rapid response team operations are guided by decrees or instructions of the Head of Service, where all aspects of response, activities and responsibilities are defined.

To develop professional knowledge and skills, rapid response team members have received training through workshops and practical exercises organized by international partners during recent years. Epidemiological investigations are planned, conducted and reported using standardized forms. When events of concern are detected, the information is exchanged with multisectoral stakeholders. Cooperation includes exchange of information not only on dangerous foodstuffs, but also implementation of response activities, discussion of problems and recommended solutions. Further improvements in the availability of laboratory tests and food safety control capacities at border controls are needed.

Public awareness of food safety remains an issue in Armenia that warrants further action.

Recommendations for priority actions

- Further enhance the national capacity for early detection and rapid response to foodborne diseases and food contamination by:
  - Raising public awareness of food safety through public campaigns.
  - Ensuring that the hotline call service managed by the SFSS is known to the public.

Indicators and scores

P.5.1 Mechanisms are established and functioning for detecting and responding to foodborne disease and food contamination – Score 5

Strengths/best practices

- Food safety policies and functions exist under a single authority.
- National legislation in the field of food safety is in compliance with international requirements.
- Laboratory capacity exists with international accreditation (ISO 17025 accreditation).

Areas that need strengthening/challenges

- Inclusion of food safety training in educational programmes and provision of continuous training for personnel working in food safety.
- Government funding for food safety systems should be increased.
- Further improvements in the availability of laboratory tests.
- Improvement of food safety control capacities at border controls.
- Keeping track of emerging infectious diseases that are threatening food security.
- Introduction of Hazard Analysis and Critical Control Points (HACCP) plan in the food industry.

Biosafety and biosecurity

Introduction

Working with pathogens in the laboratory is vital to ensuring that the global community possess 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 disease 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 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 national biosafety and biosecurity system is in place, ensuring that especially dangerous pathogens are identified, held, secured and monitored in a minimal number of facilities according to best practices; biological risk management training and educational outreach are 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 are in place as appropriate.

Armenia: level of capabilities

Armenia has a good system of biosafety and biosecurity, with the Government regulating storage and transport of pathogens. This process is under the United States Department of Defense (DoD) Defense Threat Reduction Agency (DTRA) CBEP and an external assessment has been performed. Annual recording and reporting of particularly dangerous pathogens is performed using an established inventory tool (questionnaire). This was last done in 2014, as the main laboratory was being renovated in 2015. It will be performed again as soon as the new laboratory is available.

There is a joint training and monitoring system for MoH and MoA, established under the CBEP – a three-phase training programme accompanied by guiding visits. There is a biosafety programme (Strengthening biosafety and biosecurity capabilities in South Caucasus and in Central Asian countries) for managers and public health officers, which has been created with the collaboration of the European Union (EU). CH2M HILL – a global engineering consultancy service - currently provides biosecurity training of laboratory personnel under the CBEP; from late 2016 the training will be incorporated into the curriculum of the International Scientific-Educational Center of the NCDC. The Armenian Government has shown commitment to funding biosafety and biosecurity trainings in the future.

Recommendations for priority actions

- Further the international accreditation for biosafety and biosecurity of laboratories in Armenia.
- Develop an action plan for the coordination of the biosafety and biosecurity training system and identification of possible gaps.

- Implement compulsory licensing for all laboratories (including veterinary laboratories) including developing the quality component of licensing arrangements.

Indicators and scores

P.6.1 Whole-of-government biosafety and biosecurity system is in place for human, animal, and agriculture facilities – Score 4

Strengths/best practices

- All high containment specimens are in one place.
- Secure legal basis for biosecurity and biosafety systems.

Areas that need strengthening/challenges

- Further work needs to be done regarding international accreditation of laboratories in Armenia (including veterinary laboratories).
- Licensing of laboratories needs to be made compulsory.

P.6.2 Biosafety and biosecurity training and practices – Score 4

Strengths/best practices

- Good training systems developed with international support.

Areas that need strengthening/challenges

- Need to embed the training system of the International Scientific-Educational Center of the NCDC and ensure it is audited/evaluated for effectiveness and coverage.
- Ensure funding streams can cover all appropriate training needs in the future.

Immunization

Introduction

Immunization is one of the most successful global health interventions and one of the most cost-effective ways to save lives and prevent disease. Immunizations are estimated to prevent more than two-million deaths a year globally.

Target

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

Armenia: level of capabilities

Armenia has a strong national immunization programme in place since 2005. Comprehensive multiyear plans are developed every four to five years. The targets of the recently approved National Immunization Programme 2016–2020 are fully in line with WHO strategies in the GVAP, i.e. focusing on polio eradication, measles and rubella elimination, hepatitis B control, ensuring high coverage rates, introducing new vaccines, and providing sustainable financing of immunization services. Several decrees and laws are in place for regulating the Programme. An Interagency Coordinating Committee (ICC), composed of representatives of several national ministries, international organizations (such as GAVI, UNICEF, WHO) and nongovernmental organizations, coordinate the support of all agencies involved in the Programme. Since 2013, Armenia has also established a strong National Immunization Technical Advisory Group (NITAG), supported and evaluated by the Supporting Independent Immunization and Vaccine Advisory Committees (SIVAC) Initiative. Written guidelines are updated each year. Training manuals for physicians, nurses and vaccinators are incorporated in curricula of academic training institutions.

The Government has gradually increased its share of funding for routine vaccinations up to nearly 100%. Only rotavirus vaccination activities are still being co-funded by GAVI until 2018. Vaccines are centrally procured through United Nations International Children's Fund (UNICEF) once a year. NCDC is responsible for quarterly distribution of vaccines and vaccination equipment from national to regional stores from where health facilities collect their vaccines every month. Currently 371 health institutions (both public and private) offer vaccinations to the target groups free of charge. High quality cold chain maintenance seems to be guaranteed from central level down to health facility level. Reserve buffer stocks of 50% at national and 30% at regional levels are kept in order to prevent stockouts even if shortages occur in the international market.

The routine immunization schedule for children covers 13 diseases, using eight vaccines. Rotavirus vaccine was introduced in 2012, pneumococcal vaccine in 2013, and inactivated polio vaccine in 2016. A shift from trivalent to bivalent oral polio vaccine has also been implemented. In addition, vaccinations are also offered to young male adults (meningococcal disease, hepatitis A and tularemia) and to risk groups (hepatitis B, influenza and rabies). Vaccines are administered on a voluntary basis but parents have to sign if vaccinations are rejected. A monitoring system is in place to collect information on all the important aspects of the immunization programme.

Overall, vaccination coverage for all target groups is at a stable level of 92% (in line with DHS coverage estimates from 2010 and 2015). Administrative estimates of MCV 1 coverage have constantly been at a

high level of 97% since 2010. As a result the last diphtheria case was reported in 2000, and despite measles outbreaks in neighbouring countries, any detected measles cases were due to importation and were not followed by local transmission. The monitoring system is still based on several paper forms. An increasing number of parents are hesitant to vaccinate their children, and this requires special attention. Also, a computerized system for vaccine management is not yet operational. In general, decreasing incidence trends for all vaccine preventable diseases under surveillance is observed.

Recommendations for priority actions

- Sustained advocacy for financial resource mobilization of the national vaccination programme and new vaccine introductions.
- Address vaccine hesitant groups with adapted communication methodologies.
- Improve quality of monitoring using electronic registry and vaccine management.

Indicators and scores

P.7.1 Vaccine coverage (measles) as part of national programme – Score 5

Strengths/best practices

- Strong political will is highlighted in the joint GAVI–UNICEF–WHO assessment in 2015.
- Strong legal framework with updates every five years
- National Immunization Program (2016–2020) was approved in 2016.
- Strong partnership within the country and with global partners (i.e. GAVI, UNICEF and WHO).
- NITAG is operational since 2013 and evaluated with a high score by SIVAC.
- High vaccination coverage rates:
  - Overall coverage rate 92%.
  - MCV1 coverage at constant level of 97%.
  - Low variation in coverage between regions.
- Comprehensive monitoring system is in place.
- Decreasing incidence in all vaccine preventable diseases under surveillance.
  - No cases of diphtheria since 2000.
  - No indigenous measles cases despite outbreaks in neighbouring countries.
- Marginalized groups have been successfully addressed.

Areas that need strengthening/challenges

- High-level vaccination coverage has to be sustained.
- Monitoring system is still based on several paper forms.
- Increasing numbers of parents are hesitant to vaccinate their children, which requires special attention.

P.7.2 National vaccine access and delivery – Score 5

Strengths/best practices

- Strong legal framework.
- Procurement through UNICEF guarantees sustainable access to high quality vaccines.
- Immunization programme will be fully funded by the Government after GAVI support for rotavirus vaccines expires in 2018.
- Strong collaboration with and support from international partners such as GAVI, UNICEF and WHO.
- Well-organized vaccine delivery system and maintaining cold chain guarantees free access to vaccinations in all regions.

Areas that need strengthening/challenges

- Computerized system for vaccine management is not yet operational.
- Secured funding for introduction of new vaccines is needed in the future.

DETECT

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

Real-time biosurveillance with a national laboratory system and effective modern point-of-care and laboratory-based diagnostics.

Armenia: level of capabilities

During recent years Armenia significantly reformed their laboratory services aiming at (i) developing legislation for supporting the laboratory system, and (ii) introducing a comprehensive laboratory network, quality management system and EQA scheme. The public health laboratory system in Armenia consists of a universal laboratory network, which is regulated by the MoH. The laboratories operate on three levels; local, regional and national. There are several reference laboratories in the country including the Reference Laboratory Center (RLC) of the NCDC.

Armenia has modernized several laboratories, which are now equipped with state-of-the-art tools and staff have undergone training. All the 10 core tests can be conducted in Armenia. Testing for influenza (polymerase chain reaction) is done at the national level and in two regional laboratories. Tests for polio are only available at the national level. The other core tests can be done at all three levels. The systems for specimen referral and transport (funded by the Government) are in place and able to reach almost all parts of the country. An increase in mobile laboratory capacity is needed to provide access to testing for populations that have not yet been reached.

Laboratories are accredited by a designated agency under the Ministry of Economics, and 46 laboratories are accredited to the ISO 17025 standard. The EQA scheme is currently under development.

Strengthening of the Armenian laboratory capacity to meet the IHR and OIE requirements has predominantly been both financially and technically supported by the United States DTRA. In order to stay on course with the already achieved positive capacity improvements, sustainable national funding should be secured for long-term development.

Recommendations for priority actions

- Expand the universal laboratory network to cover all public health laboratories in Armenia.
- Secure funding for national coordination of the expanding laboratory network.
- Obtain additional reference strains of pathogens to improve validation of diagnostic methods.

- Implement a national EQA scheme including the required administrative organization.
- Fully operationalize the recently established reference laboratories of the NCDC and the State Food Safety Inspectorate.

Indicators and scores

D.1.1 Laboratory testing for detection of priority diseases – Score 4

Strengths/best practices

- Legal foundation for the universal laboratory network is in place.
- All the 10 core tests can be performed and the three-level organizational structure of the laboratory network is capable of continuous capacity development.

Areas that need strengthening/challenges

- Need for expansion of the universal laboratory network and financial support for the expansion.

D.1.2 Specimen referral and transport system – Score 4

Strengths/best practices

- Referral and transport of samples are standardized and procedures are as defined by MoH orders.
- 96% of the population has access to advance diagnostics (including 10 core tests) and testing is offered free of charge.

Areas that need strengthening/challenges

- Increase mobile laboratory capacity to provide access to testing for populations currently not reached.

D.1.3 Effective modern point of care and laboratory based diagnostics – Score 4

Strengths/best practices

- The availability of reference laboratories and participation in international collaboration (including laboratory networks such as MediLabSecure) facilitate modernization of laboratory-based diagnostics.

Areas that need strengthening/challenges

- Expand reference strain collection for validation of diagnostic methods.
- Ensure sustainable national funding for modernization of laboratory equipment and training of staff.
- The collection of in vitro diagnostic devices is currently too diverse and needs to be standardized.

D.1.4 Laboratory quality system – Score 4

Strengths/best practices

- Quality management is mandatory.
- Continuous staff training requirement is in place.

Areas that need strengthening/challenges

- Sustainable national funding is needed for administration of the national EQA scheme.

Real-time surveillance

Introduction

The purpose of real-time surveillance is to advance the safety, security, and resilience of the Nation by leading an integrated bio-surveillance effort that facilitates early warning and situational awareness of biological events.

Target

Strengthened foundational indicator- and event-based surveillance systems that are able to detect events of significance for public health, animal health and health security; improved communication and collaboration across sectors and between sub-national, national and international levels of authority regarding surveillance of events of public health significance; improved country and regional capacity to analyze and link data from and between strengthened, real-time surveillance systems, including interoperable, interconnected electronic reporting systems. This can include epidemiologic, 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 and the OIE standards.

Armenia: level of capabilities

Armenia has developed thorough sustainable capabilities for the detection of events of significance for human and animal health. There are multiple independent surveillance systems, including indicator-based and event-based surveillance systems, to detect public health threats. Information in the public health surveillance system is processed within an interoperable, interconnected, electronic reporting system; however, real-time sharing of notification data is not yet implemented. Analysis and reporting of surveillance data and risk assessment are performed systematically at all levels by dedicated teams of qualified staff.

A syndromic surveillance system is in place, which assists the detection of four core syndromes indicative of public health emergencies, i.e. acute flaccid paralysis, severe acute respiratory infections, haemorrhagic-uremic syndrome and haemorrhagic fever syndrome.

Recommendations for priority actions

- Develop and implement electronic notification, which allows real-time access to surveillance data. Integrate reporting mechanisms using an electronic secure reporting system that is interoperable and interconnected and in real time (starting at the level of laboratories and physicians): While such a system is in place, notification data are still processed manually at the local level (data entry), i.e. data is not available in real-time mode.
- Include further syndromes in the already established syndromic surveillance system: The system currently allows the surveillance of four core syndromes. Further syndromes (such as acute watery diarrhoea with dehydration) should be integrated into the existing syndromic surveillance system, to ensure rapid detection of relevant infections of public health importance.
- Enhance training of peripheral level staff in disease surveillance: Educate and train staff at all levels of the notification system to strengthen the present surveillance systems, including indicator-based, event-based and syndromic surveillance.

Indicators and scores

D.2.1 Indicator and event based surveillance systems – Score 4

Strengths/best practices

- Comprehensive legislation is in place.
- Information from official and nonofficial sources is being used in the various surveillance systems (including indicator-based and event-based surveillance).
- The various surveillance systems are regularly evaluated. This includes the systematic collection, filtering, confirmation and analysis of information.
- Trained and experienced public health professionals systematically screen media reports for relevant events and syndrome reports.

Areas that need strengthening/challenges

- Data quality needs to be improved.
- New methodological approaches, e.g. surveillance methods, should be considered and applied.
- Infrastructures and functions need to be adapted according to the rapidly changing (technical) environment.

D.2.2 Interoperable, interconnected, electronic real-time reporting system – Score 3

Strengths/best practices

- A standardized notification format is used, that is harmonized according to the International Classification of Diseases (ICD)-10 codes.
- All data is integrated in one electronic reporting system, i.e. the EIDSS.
- Data is transmitted within the electronic reporting system in real-time mode from the level of regional public health service onwards.
- Public health professionals, particularly at the national level, are continuously trained in data analysis methods.

Areas that need strengthening/challenges

- Data entry into the electronic reporting system should be conducted without interruption of media, starting from the level of notification to the national level.
- Skills of professionals in electronic reporting system should be improved at the subregional level.
- Collaboration between the human and animal health sectors in the area of zoonotic diseases should be further strengthened.
- High turnover of staff in the public health sector is a challenge.

D.2.3 Analysis of surveillance data – Score 5

Strengths/best practices

- A standardized notification format is used, that is harmonized according to ICD-10 codes.
- Nosocomial diseases are included in the reporting forms.
- The reporting system is flexible (i.e. not only restricted to diseases that are mandatorily notifiable according to IHR (2005)), and extendable to currently relevant syndromes.

Areas that need strengthening/challenges

- The skills of public health professionals regarding analysis of surveillance data should be improved.

D.2.4 Syndromic surveillance systems – Score 4

Strengths/best practices

- The syndromic surveillance system for the four core syndromes is highly sensitive.
- Epidemiological information gathered through this surveillance system is available at all levels, starting from the local level.

Areas that need strengthening/challenges

- The syndromic surveillance system database should be continuously improved, such as by including information from other sectors.
- Investment in laboratory capacities should also be considered for the regional level.
- A sustainable surveillance system for acute flaccid paralysis is a key element to show proof of polio-free status.

Reporting

Introduction

Health threats at the human–animal–ecosystem interface have increased over the past decades, as pathogens continue to evolve and adapt to new hosts and environments, imposing a burden on human and animal health systems. Collaborative multidisciplinary reporting on the health of humans, animals, and ecosystems reduces the risk of diseases at the interfaces between them.

Target

Timely and accurate disease reporting according to WHO requirements and consistent coordination with FAO and OIE.

Armenia: level of capabilities

Armenia has an operational national IHR focal point located within the MoH, which serves as the designated national coordinating body and the official communication hub with WHO, as per Governmental Decrees 809-N (19 July 2009) and 913-N (6 August 2009). In addition, there is also an operational OIE focal point established within the MoA, and supportive legislation exists to facilitate information exchange between these two entities (such as in a zoonotic event). Joint trainings in reporting are held with MoH and MoA for One Health related topics.

Information sharing and coordination mechanisms are established among other ministries and the national IHR focal point, as per various SOPs and Government Decree N 1138-N (26 August 2010). There is a network of IHR responsible contact points within each ministry. The IHR (2005) Annex II decision-making instrument is utilized when assessing public health events, and Armenia additionally has a system in place that facilitates response to national public health events in a coordinated manner.

Thus far, Armenia has not experienced an event with demonstrated ability to be identified as a potential public health emergency of international concern (PHEIC) and file a timely report to WHO. Existing communications with WHO were however not performed in a timely fashion in accordance with IHR (2005) regulations. Also, cooperation with other countries, in particular between nations with common border points to ensure timely reporting and information exchange, needs improvement.

Recommendations for priority actions

- Enhance communication and collaboration between the national IHR focal point of Armenia and the national IHR focal points of neighbouring countries with the facilitation of WHO.
- Enhance reporting of public health events detected at ground crossings with other countries by jointly designating these ground crossings for the implementation of IHR (2005) capacities.
- Conduct simulation exercises to test 24-hour timely notification of potential PHEIC to WHO.

Indicators and scores

D.4.1 System for efficient reporting to WHO, FAO and OIE – Score 3

Strengths/best practices

- The national IHR focal point is established with clear terms of reference (ToRs), and has the authority and mandate for reporting a PHEIC to WHO as the national coordinating body.
- Coordination mechanisms exist across national sectors, in particular with the OIE focal point for zoonotic and food safety events.
- Standardized reporting formats and protocols exist to streamline coordination and communication.
- Systematic training and exercising occurs with diverse national sectors, including training segments on reporting and information exchange requirements.
- Bilateral agreements exist to facilitate monthly reporting for infectious diseases with 25 countries; and national IHR focal point bilateral mechanisms have been previously used to exchange information on health threats.

Areas that need strengthening/challenges

- Ensuring the continuity of high-capacity human resources, high staff turnover and consequential capacity gaps in reporting.
- Improving cooperation with other countries, in particular among nations with common border points to ensure timely reporting and information exchange.

D.4.2 Reporting network and protocols in country – Score 3

Strengths/best practices

- Multisectoral coordination is in place to respond to potential and real PHEICs, and information exchange mechanisms among the network of different sectors at the national level.
- Efficient vertical information exchange from subnational levels to national level within sectors.
- Regular and systematic training occurs for related sectors, including non-health sectors.

Areas that need strengthening/challenges

- Ensuring the continuity of high-capacity human resources, high staff turnover and consequential capacity gaps in reporting.
- Coordination and cooperation agreements with other countries regarding mutual training are required.

Workforce development

Introduction

Workforce development is important in order to develop a sustainable public health system over time by developing and maintaining the highly qualified public health workforce with appropriate technical training, scientific skills, and subject-matter expertise.

Target

States parties should have 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). A workforce includes physicians, animal health or veterinarians, biostatisticians, laboratory scientists, farming/livestock professionals, with an optimal target of one trained field epidemiologist (or equivalent) per 200,000 population, who can systematically cooperate to meet relevant IHR and PVS core competencies.

Armenia: level of capabilities

Owing in part to the security situation in the region, Armenia has dedicated significant efforts to ensuring that sufficient human resource capacities are in place to implement IHR (2005). The country has multidisciplinary capacity in place at the national, regional and local levels, including epidemiologists, hygienists, entomologists, veterinarians, clinicians, paramedical personnel and laboratory technicians. Bilateral and multilateral agreements are in place for sending and receiving personnel, and deployments from Armenia to other countries have taken place. According to the data presented by the Armenian authorities, the country has 161 trained epidemiologists in service, more than ten times the target of one trained field epidemiologists per 200,000 population. Nearly 20% of Armenian epidemiologists have been trained on the two-year South Caucasus FELTP, and around 10% have graduated the nine modules of the EU MediPIET.

A mentorship programme is in place for both the FELTP and MediPIET. In addition to participating in these international programmes, the NCDC is on the verge of launching a national FETP, which will be provided by the International Scientific-Educational Center of the NCDC. While a health care human resource development strategy that covers the entire health workforce is in place for the period 2014–2018, there is no strategy focusing specifically on the public health workforce. Similarly, activities related to workforce planning, such as monitoring of retention and implementing measures to improve retention, all focus on the general health workforce.

A long-term strategy would be required to reduce the dependency of the South Caucasus FELTP on support from the United States Centers for Disease Control and Prevention (CDC). There are currently very few systematic efforts to conduct workforce planning activities focusing specifically on the public health workforce. Therefore, Armenia should begin planning and monitoring human resource levels for the required spectrum of public health services.

Recommendations for priority actions

- Initiate workforce planning, focusing specifically on the public health workforce; plan and monitor human resources across the full spectrum of public health services.

- Rollout the national FETP currently being piloted by the International Scientific-Educational Center of the NCDC.
- Allocate funding to increase the benefits package of public health professionals to ensure retention.
- Identify a long-term strategy, in dialogue with other countries in the region, for taking over responsibility of the South Caucasus FELTP, so as to reduce dependency from United States CDC.

Indicators and scores

D.5.1 Human resources are available to implement IHR core capacity requirements – Score 5

Strengths/best practices

- Armenia has a high level of human resource capacity to implement IHR (2005). The public health workforce is multidisciplinary, functions at both national and subnational levels, and is capable of deploying internationally.

Areas that need strengthening/challenges

- Public health professions are perceived as being less attractive than health care professions; level of remuneration is perceived as low, and there is a relatively high rate of staff turnover.

D.5.2 Field epidemiology training programme or other applied epidemiology training programme in place – Score 5

Strengths/best practices

- Armenia regularly participates in the South Caucasus FELTP run by the United States CDC, as well in the EU MediPIET.
- A mentorship programme is in place and the International Scientific-Educational Center of the NCDC is currently piloting the national.
- Armenia has a large number of trained epidemiologists.

Areas that need strengthening/challenges

- The national FETP currently being piloted needs to be firmly established.
- A long-term strategy would be required to reduce the dependency on the United States CDC for the South Caucasus FELTP.

D.5.3 Workforce strategy – Score 5

Strengths/best practices

- Workforce planning is taking place and a human resource development strategy is currently being implemented.
- Retention is monitored and measures are being taken to improve retention.

Areas that need strengthening/challenges

- There are currently very few systematic efforts to conduct workforce planning activities focusing specifically on the public health workforce. As the number of health care professionals greatly exceeds the number of public health professionals, a more focused approach is required to adequately address the needs of the public health workforce. Armenia should begin planning and monitoring of human resources for public health services.

RESPOND

Preparedness

Introduction

Preparedness includes the development and maintenance of national, intermediate and community/primary response level public health emergency response plans for relevant biological, chemical, radiological and nuclear hazards. Other components of preparedness include mapping of potential hazards, the identification and maintenances of available resources, including national stockpiles and the capacity to support operations at the intermediate and community/primary response levels during a public health emergency.

Target

Development and maintenance of national, intermediate (district) and local/primary level public health emergency response plans for relevant biological, chemical, radiological and nuclear hazards. This covers mapping of potential hazards, identification and maintenance of available resources, including national stockpiles and the capacity to support operations at the intermediate and local/primary levels during a public health emergency.

Armenia: level of capabilities

Preparedness is a strong point in Armenia's implementation of IHR (2005). Emergency response plans have been prepared for a variety of scenarios, and each of these contains specific provisions pertaining to public health, in line with the requirements of Annex 1A, Article 2 of the IHR (2005). Surge capacity is in place and there are plans for mobilizing resources to support response at the local level. Tests are conducted several times a year, including an annual nation-wide test involving the full spectrum of public institutions, at all levels. The MES performs risk assessments and updates the national risk profile on an annual basis, maps resources and ensures that critical stock levels are maintained.

Recommendations for priority actions

- Prioritize rolling out of the Disaster Resilient Community Programme to national scale.

Indicators and scores

R.1.1 Multi-hazard national public health emergency preparedness and response plan is developed and implemented – Score 5

Strengths/best practices

- The MES and MoH form a strong institutional framework for emergency preparedness. Comprehensive response plans are in place and regular simulation exercises are conducted.

Areas that need strengthening/challenges

- No areas are in need of strengthening.

R.1.2 Priority public health risks and resources are mapped and utilized – Score 5

Strengths/best practices

- Risk assessments are performed annually and the national risk profile is updated accordingly.
- The MES and MoH monitor different stockpiles and resources, and ensure that they are up-to-date and aligned to the needs dictated by the national risk profile.

Areas that need strengthening/challenges

- Continuously improve the assessment of emerging risks, and update public health emergency preparedness and response plans as appropriate.

Emergency response operations

Introduction

A public health emergency operations center (EOC) is a central location for coordinating operational information and resources for strategic management of public health emergencies and emergency exercises. EOCs provide communication and information tools and services and a management system during a response to an emergency or emergency exercise. They also provide other essential functions to support decision-making and implementation, coordination, and collaboration.

Target

Countries will have a public health Emergency Operation Center (EOC) functioning according to minimum common standards; maintaining trained, functioning, multi-sectoral rapid response teams and "real-time" biosurveillance laboratory networks and information systems; and trained EOC staff capable of activating a coordinated emergency response within 120 minutes of the identification of a public health emergency.

Armenia: level of capabilities

Armenia has a very well defined emergency response system involving all the tiers of the administrative mechanism. The country has a high-level of capability to activate any of the emergency response operations including the EOCs within the required timeframe of two hours. Armenia can also activate response operations requiring surge human capacities.

A national framework, i.e. the National Incident Management System, and specific activation plans with a wide range of scenarios, triggers and activation levels are in place. Situational awareness is maintained through formal and informal exchange of information between the different sectors.

Plans and procedures exist in the EOCs, as well as MoUs between agencies to formalize collaborations. These plans are flexible to address complex health emergency issues including at points of entry. These procedures are reviewed regularly and shared with the different stakeholders.

Case management procedures and guidelines are available for all IHR-relevant hazards. Trained personnel are available at different levels for case investigation and management. A case referral system is also in place from the peripheral to the central level with the needed procedures.

Simulation exercises to test the capacity of the country to respond to the different hazards are conducted regularly with the involvement of the relevant sectors.

Recommendations for priority actions

- Enhance the early warning system by linking to indicator-based and event-based surveillance for early detection and rapid response to potential PHEIC.
- Enhance the capacity of risk assessment of potential PHEICs at the different administrative levels.
- Raise the awareness of the population regarding response to public health emergencies of different origins.
- Further enhance the capacity of the country on disaster risk reduction.

Indicators and scores

R.2.1 Capacity to activate emergency operations – Score 5

Strengths/best practices

- National plan for emergency preparedness and response to all hazards is in place and accessible to all sectors.
- SOPs to activate emergency operations are in place and Armenia has the capacity to maintain continuity in operations, when needed.
- Strong communication between the different sectors through senior officials.
- Surge staff availability.

Areas that need strengthening/challenges

- No major challenges were identified.

R.2.2 Emergency operations centre operating procedures and plans – Score 5

Strengths/best practices

- The EOC has the capacity to function 24 hours a day, seven days a week with designated personnel.
- Plans and procedures are in place.
- Risk-based communication system is in place.
- Triggers to activate the EOC are available.
- Trainings have been conducted to support the activation process of EOCs.

Areas that need strengthening/challenges

- There should be a more systematic evaluation of the resources needed at each level to ensure consistent response activation.
- Training needs to be continued for all relevant ministries, including EOC members.
- A roster should be developed to support and ensure that EOC functions 24 hours a day, seven days a week.

R.2.3 Emergency operations programme – Score 5

Strengths/best practices

- Simulation exercises are conducted regularly and the needed improvement is carried out.
- Training programmes are in place and cover all concerned sectors.

Areas that need strengthening/challenges

- EOC should be a part of any simulation exercise for testing response.

R.2.4 Case management procedures are implemented for IHR relevant hazards – Score 5

Strengths/best practices

- Case management protocols have been developed for all hazards.
- Referral system is in place from peripheral level to central level.
- Protocols and procedures are accessible to ground personnel.

Areas that need strengthening/challenges

- The capacity of risk assessment needs further strengthening.

Linking public health and security authorities

Introduction

Public health emergencies pose special challenges for law enforcement, whether the threat is manmade (e.g., the anthrax terrorist attacks) or naturally occurring (e.g., flu pandemics). In a public health emergency, law enforcement will need to quickly coordinate its response with public health and medical officials.

Target

In the event of a biological event of suspected or confirmed deliberate origin, a country will be able to conduct a rapid, multi-sectoral response, including the capacity to link public health and law enforcement, and to provide and/or request effective and timely international assistance, including to investigate alleged use events.

Armenia: level of capabilities

Armenia has great capacity to link public health and law enforcement, including the investigation of alleged deliberate use events. This is addressed in the public health emergency preparedness and response plan of the country. The Armenian system allows the public health sector to call upon the law enforcement and security sectors to support the implementation of any public health programme.

There is regular real-time information sharing between national public health agencies and law enforcement authorities that ensures timely and coordinated response operations. Enforcement systems are in place, including those at points of entry for the early detection of sources of public health events. Existing laboratory systems and networks are capable of identifying unknown agents. Drills are conducted on an annual basis and the national plan is reviewed accordingly. Sectoral plans that exist, including public health preparedness and response plans, are not an integral part of the national plan.

Recommendations for priority actions

- Ensure accessibility of all existing plans to the relevant stakeholders of public health and security.
- Improve bilateral information sharing related to public health events detection, investigations and response.
- Review existing SOPs for joint investigation and response to public health events and develop necessary SOPs.

Indicators and scores

R.3.1 Public health and security authorities, (e.g. law enforcement, border control, customs) are linked during a suspect or confirmed biological event – Score 5

Strengths/best practices

- There are formal agreements in place among all of the relevant sectors.
- Timely regular information sharing is in place.
- There is joint risk assessment, investigation and response.
- There is strong coordination and collaboration with the media.

- The public health sector has clear protocols that engage the security forces to assist when there is a disaster or major hazardous event.
- SOPs to guide the actions of different stakeholders in a highly coordinated multisectoral response to emergencies including public health emergencies are in place.

Areas that need strengthening/challenges

- There is need for continuous joint training between the different sectors including with the law enforcement and security sectors.

Medical countermeasures and personnel deployment

Introduction

Medical Countermeasures (MCM) are vital to national security and protect nations from potentially catastrophic infectious disease threats. Investments in MCM create opportunities to improve overall public health. In addition, it is important to have trained personnel who can deploy in case of a public health emergency for response.

Target

A national framework for transferring (sending and receiving) medical countermeasures and public health and medical personnel among international partners during public health emergencies.

Armenia: level of capabilities

Armenia has the legal framework in place for transferring (sending, receiving and distributing) medical countermeasures and deploying personnel. There are regular drills and simulation exercises to improve the system. In 2014 a multisectoral simulated earthquake exercise was conducted at the Zvartnots International Airport. During the exercise the processes of humanitarian assistance receipt and distribution were simulated. The lessons identified in this exercise led to the adaptations of various procedures and plans. After that major simulation several tabletop exercises have also been carried out.

There is a national stockpile of supplies for emergency situations in the State Reserve Agency, including medicines, medical and sanitary equipment. The Minister of Emergency Situations has the authority to mobilize the stockpile in an emergency, upon agreement with the Prime Minister. All medical facilities in the country are also obliged by law to have a 30-day stockpile of medical supplies. There are four pharmaceutical companies producing several types of antibiotics within the country. Written contracts have been signed with five major pharmaceutical importers for the production and import of medicines during emergency situations.

Armenia has signed bilateral and multilateral agreements concerning sharing situation alerts, information and mutual aid. Armenia is a member of the Eurasian Economic Community (EurAsEC) and Collective Security Treaty Organization. Armenia is also a member of the International Search and Rescue Advisory Group (INSARAG) and has a trained National Urban Search and Rescue Team and can and does deploy assets internationally.

Recommendations for priority actions

- Provide further training to regional-level distribution staff.
- Secure additional funding in order to increase stockpiles in the state material reserves.
- Modernize emergency response equipment, such as ambulances for transporting multiple victims and improve radio communication services.

Indicators and scores

R.4.1 System is in place for sending and receiving medical countermeasures during a public health emergency – Score 5

Strengths/best practices

- Legal framework is in place.
- Single management system.
- Experience of staff is in place.
- Multisectoral subteams are operating at all entry points.
- National stockpile is in place and warehouse staff are ready to deploy within two hours of being notified.
- 30-day stockpile at each health facility is in place.
- Regular drills that increase preparedness and feed into the updating of plans are conducted.

Areas that need strengthening/challenges

- Further development of material reserves.
- Provision of additional financial resources for the above recommendations.
- Improvement in regional training.
- Being an earthquake prone country is a challenge.

R.4.2 System is in place for sending and receiving health personnel during a public health emergency – Score 5

Strengths/best practices

- Legal framework is in place.
- 40 health personnel on a team list are ready for deployment within 24 hours.
- Past country experience of international deployment of health personnel in earthquake in Iran 2003 and later in Indonesia.
- Certificates of licensed professionals coming from abroad are recognized.
- Plans exist for accommodating them in special secure camps.
- Transportation costs are covered by the Armenian Government on the basis of mutual agreements.
- Local level committees are responsible for overseeing deployment of both supplies and health personnel.
- Regular drills that increase preparedness and adjust plans are conducted.
- National Urban Search and Rescue team is in place with qualifications up to international INSARAG standards.

Areas that need strengthening/challenges

- Improvement in regional training.
- Infrastructure for receiving relief workers from abroad needs to be brought up to international standards.
- Legal framework needs constant review.
- Lack of specialists (such as anesthesiologists, resuscitation specialists, surgeons) who would be needed in case of an emergency.

Risk communication

Introduction

Risk communications should be a multi-level and multi-faceted 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 outbreaks of diseases. 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, as well as the voice of the affected population. Communications of this kind promote the establishment of appropriate prevention and control action through community-based interventions at individual, family and community levels. Disseminating the information through the appropriate channels is essential. Communication partners and stakeholders in the country need to be identified, and functional coordination and communication mechanisms should be established. In addition, the timely release of information and transparency in decision making are essential for building trust between authorities, populations and partners. Emergency communications plans need to be tested and updated as needed.

Target

States parties should have risk communication capacity which is multi-level and multi-faced real time exchange of information, advice and opinion between experts and officials or people who face a threat or hazard to their survival, health or economic or social well-being so that they can take informed decisions to mitigate the effects of the threat or hazard and take protective and preventive action. It includes a mix of communication and engagement strategies like media and social media communication, mass awareness campaigns, health promotion, social mobilization, stakeholder engagement and community engagement.

Armenia: level of capabilities

Risk communication is regulated by two decrees signed in 2003 and 2005, and revised several times since then. Armenia does not have a multi-hazard risk communication plan, but communication procedures are included in all available emergency response plans. These national plans articulate procedures, roles and responsibilities of staff in charge of risk communication. There are appointed focal points for risk communication at national, regional and local levels. At the national level a Joint Information Centre is established at the MES with multiprofessional competencies (journalists, communication, photographers, sociologist and psychologist) responsible for coordinating public communication during an emergency. During emergency drills, such as the simulated earthquake at the airport in 2014, all levels of communication were tested, including multistakeholder collaboration with international and local nongovernmental organizations.

Every ministry has a public relations department with trained spokespersons, and every senior manager has an appointed press person. The public relations personnel in the MoH, MoA and MES collaborate well and communicate via social media, Facebook and Instagram, but formal and informal contacts with other ministries could be improved. NCDC at the MoH and most other public relations departments conduct daily active media, social media and Internet monitoring and reporting on events and rumours that may need a communication or operative response. The 911 line at the National Crisis Centre of the MES is also regionally distributed and calls are directed to regional crisis management centres. If the regional call line is overloaded (such as during blizzards in winter due to stuck cars), calls are re-directed to national centre

in Yerevan. Four special rescue squads are on duty 24 hours every day to respond to special rescue calls and are also skilled in firefighting.

Public risk communication in Armenia is transmitted through a mix of channels including information, education and communication (IEC) materials distributed in schools as well as through television, radio, web, social media and newspapers to the general population. The MES has a website (www.mes.am) where risk communication is transmitted through texts or videos, updated regularly, and every hour during a crisis. MES also produces a newspaper called Emergency Gazette with 10,000 private and public subscribers, which is widely disseminated. Agreements are signed with three mobile cellular companies to text risk communication messages. The national television channel reaches all parts of Armenia and in case of emergency, broadcasting on all channels can be interrupted to broadcast risk communication messages. A special car for radio transmission as well as for relaying messages through a loudspeaker can be deployed to crisis zones to create a hotspot of radio broadcasting. If all other media transmissions fail, there is a national list of community members with telephone numbers in certain hard-to-reach areas, who can be contacted for disseminating information.

A newly established public commission on "public opinion" at the MoH, includes representatives from national and international nongovernmental organizations, clinicians and two public opinion leaders. The goal of this commission is to be a discussion forum for the participants to provide their perspective on current health risk topics to the MoH. New action and risk communication plans are disseminated through the Chief of Civil Protection (a person elected by the community (from 10 000–150 000 persons) with delegated funding for response and communication activities, consultation and feedback.

However, there is a need for more proactive engagement of communities to further strengthen the already developed risk communication system in Armenia. The tendency is for top-down communication, rather than building communication in collaboration with the local community as equal partners. Also, horizontal communication links between certain regions and public relation departments at national level may need to be further developed. Sustainable funding for communication particularly at the local level needs to be guaranteed.

Recommendations for priority actions

- Strengthen communication and knowledge management mechanisms, to enable daily sharing of media and rumour monitoring reports between the various public relations and communications teams working in the different ministries.
- Strengthen informal communications, relationships and trust between key actors in ministries other than health, agriculture and emergencies.
- Strengthen partnerships between local communities and authorities, and mechanisms to support the role of communities as "equal partners".
- Ensure sustainable funding for risk communications activities, especially at the local level.

Indicators and scores

R.5.1 Risk communication systems (plans, mechanisms, etc.) – Score 4

Strengths/best practices

- Regulated system of risk communication included in each emergency response plan with responsible focal points at national, regional and local levels.
- National platform for risk reduction system at MES (Joint Information Centre) is established for emergencies.
- Hotlines function in all government agencies.

- Well-functioning 911 call-line at both regional and national levels.
- Regular exercises are conducted. The latest drill by MES on 19–20 July 2016 was on the establishment and functioning of an intersectoral joint information center in case of an emergency (major earthquake) with participation of representatives from government agencies.

Areas that need strengthening/challenges

- Vertical communication from national, regional to local level works well, but simulation exercises have shown that horizontal communications between regions are less developed.
- Development of local communication capacities.
- All messages from each ministry need to be cleared by the highest level of management; coordination between some ministries may be a challenge for rapid communication.
- Constant challenge to maintain trust in information transmitted by MoH.

R.5.2 Internal and partner communication and coordination – Score 5

Strengths/best practices

- All risk communication planning that includes multistakeholders' roles and responsibilities are in place.
- During drills, health care workers, media actors and national and international nongovernmental organizations, are active partners in the exercise as well as in adapting plans from lessons learned.
- MES is equipped with communication network consisting of Internet, cable, fax and radio.
- Communication is coordinated among crisis management centres and public relations units of MES, MoH and the Ministry of Territorial Administration (under which health facilities are organized).
- In emergency situations, the public relations department of MES conducts regular media briefings with participation of stakeholders and updates information on the MES website.
- Chief of Civil Protection and associated local volunteers are in dialogue with local stakeholders and give feedback on new emergency action plans. They develop a local version of the national communication plan and have their own (limited) budget.

Areas that need strengthening/challenges

- Regular training in risk communications is carried out, but an increased budget for training would improve the efficiency of risk communications.
- Sustained funding for local communication work is required.
- Improve communication skills at local and regional levels.

R.5.3 Public communication – Score 5

Strengths/best practices

- The crisis management centre, including the Joint Information Centre at the MES, is a trusted asset for speaking to the public.
- Training of specialists involved in risk communications is conducted by the Crises Management State Academy of MES.
- NCDC Head of Public Relations underwent WHO training on risk communication, which turned into a training the trainers programme.
- Training for mass media journalists is conducted on diseases that have high outbreak risk or are endemic in Armenia.

- Risk communication on how to behave in an emergency is taught in the basic school curriculum starting from pre-school level.
- Visual public communication materials are tested among a target audience prior to publication.
- Armenian language is spoken by >95% of the population and understood by all, but three languages are used on the MES website.

Areas that need strengthening/challenges

- Develop local capacity for risk communication.

R.5.4 Communication engagement with affected communities – Score 4

Strengths/best practices

- Involvement of local government bodies and volunteer groups is envisioned in all emergency response plans, roles and responsibilities and is outlined in the locally developed response plans.
- Crisis management centres are operating on a 24-hour schedule. This enables two-way communication between affected and/or at-risk population and the response teams.
- Feedback system from affected populations during the earthquake drills and Artik flood emergency was used to identify issues in need of improvement.
- Health promotion is implemented by regional and local MoH health facilities.
- Public commission for shaping public communication is in place at the national level.
- A recent survey of more than 10,000 participants was conducted on trusted information resources and preferred communication channels that will help to build better risk communication plans.

Areas that need strengthening/challenges

- Currently there is more of a top-down risk communication tradition rather than building equal partnership with the community.
- Exercises and simulations should focus more on local community engagements.

R.5.5 Dynamic listening and rumour management – Score 5

Strengths/best practices

- A system for daily monitoring and reporting on rumours is in place in the public relations department of the different ministries.
- Dynamic listening exists through many channels (hotlines, media, social media, local actors) in a systematic way. Information is double-checked and risk communication is adapted accordingly.
- Reports on double-checked rumours/information and communication strategies to counterbalance them, if necessary, are cleared in the management of each government department and shared between government bodies if required.

Areas that need strengthening/challenges

- Rumours spread quickly in Armenia and need to be managed during crises.
- There are examples of occasions that showed mistrust towards the MoH. For example in the influenza pandemic, despite the rumours and mistrust, they achieved 98% coverage of vaccination among the at-risk population. There are, however, very few examples of rumours getting out of control with significant negative impact on behaviour.
- Vertical management is in force during emergencies to enable more efficient dissemination of response, however this may hinder adaptation of communication with the help of local communities.

OTHER IHR-RELATED HAZARDS AND POINTS OF ENTRY

Points of entry

Introduction

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

Armenia: level of capabilities

Armenia has seven points of entry (two airports, one rail station and four ground crossings), of which two have been officially designated for developing public health capacities as outlined within the IHR – the Zvartnots International Airport in Yerevan, and the Bagratashen ground crossing that shares its border with Georgia. Armenia shares terrestrial borders with Azerbaijan, Georgia, Iran and Turkey yet holds no official diplomatic relationships with its neighboring countries.

Armenia has adopted specific provisions under IHR for the two designated points of entry under Government decree N1418 (10 June 2011). Competent authorities have been clearly identified at the points of entry and collaborate with well-defined stakeholders for both routine and emergency capacities, as demonstrated through various exercises and drills.

The State Health Inspectorate on behalf of the MoH is responsible for implementation of IHR (2005) as well as other national health regulatory guidelines at Armenia's points of entry. Numerous policies support multisectoral coordination amongst sectors.

Significant physical investments and capacity building training/projects have been recently implemented at Armenia's border points through support from various technical partners, such as United Nations Development Programme (UNDP) and the Eurasian Economic Community. During the mission, a site visit to Zvartnots International Airport was conducted to discuss points of entry capacities specific to IHR, for both routine and emergency situations. The state of the facility's capacity and equipment was observed first-hand, and examples of public health responses to exercises and drills were shared. Overall, high capacity and significant collaboration was noted among the sectors, however streamlining and coordination of activities required continuous effort and investment from all staff at the points of entry.

A functioning vector control programme at all designated points of entry needs to be established. The country needs to further enhance preparedness for public health response related to mass migration and bioterrorism.

Recommendations for priority actions

- Review and update existing SOPs for the early detection and management of public health events at points of entry.
- Enhance planning and implementing of public health programmes, in particular vector control, to ensure a safe environment at points of entry.
- Establish a formal working group representing relevant stakeholders for streamlining activities, SOPs and plans with the exiting legal base.

Indicators and scores

PoE.1 Routine capacities are established at points of entry – Score 3

The external assessment team and their Armenian counterparts concluded that while elements of Score 4 (Inspection programme to ensure safe environment) and Score 5 (Trained personnel for the inspection of conveyances available at points of entry) were existent, the lack of a functioning vector control programme resulted in a Score 3 for this indicator.

Strengths/best practices

- Points of entry possess the capacity to provide access to medical services and staff, diagnostic equipment and transport of suspected cases to appropriate medical centres via ambulance services. Quarantine facility is in place for highly infectious patients.
- Points of entry have established links with local health centres and veterinary services for the management of suspected cases.
- Rapid threat detection and management capabilities are in place, including the existence of preventive measures (e.g. noncontact measures).
- Availability of trained staff to control conveyances at the designated points of entry.
- Safe environment for traveling passengers was ensured at points of entry with facilities such as hygienic washrooms, potable water, clean eating establishments.
- Disinfection and deratting are done in the Zvartnots International Airport premises twice a year via third party contractors.
- Health sensitization for pertinent public health matters is displayed in multiple languages – Armenian, Russian and English.

Areas that need strengthening/challenges

- Development of a "one-stop single window" system for the identification of affected travelers and initiation of isolation, if applicable.
- Establishment of a functioning vector control programme at all designated points of entry
- The draft joint decree on vector control at points of entry is currently pending.

PoE.2 Effective public health response at points of entry – Score 4

Strengths/best practices

- A national emergency public health response plan exists for both designated points of entry, and is sanctioned within N-777, binding on all relevant stakeholders with clearly defined roles concerning different potential threats. Contact points for all relevant sectors are regularly maintained and posted.

- Specific areas and protocols reserved for quarantine, as well as for the application of control measures to cargo/conveyances exist.
- Provision of appropriate space to interview suspected or affected persons, separate from other travelers, also exists.
- Emergency training and exercises occur periodically, such as proper utilization of personal protective equipment for management of suspected Ebola cases.

Areas that need strengthening/challenges

- Preparedness for public health response related to mass migration and bioterrorism.
- Securing specialized transport (capsules, special ambulances) for the safe transfer of highly infectious patients.

Chemical events

Introduction

States parties should have surveillance and response capacity for chemical risk or events. It requires effective communication and collaboration among the sectors responsible for chemical safety, industries, transportation and safe disposal

Target

States parties should have surveillance and response capacity for chemical risk or events. It requires effective communication and collaboration among the sectors responsible for chemical safety, industries, transportation and safe disposal.

Armenia: level of capabilities

Armenia has a well-developed system for surveillance and response to chemical events. Since 2015, a chemical surveillance system has been operating at local, regional and national levels (monthly analysis at national level), which reports to the NCDC for each event. A legislative framework supports the system; but the framework is complex and a "unified chemical law" would aid clarity in both preparedness and response. There are also legal frameworks for chemical transportation and Armenia is a signatory to chemical conventions, such as those of Stockholm and Minamata. There is very good cooperation and liaison between environmental and chemical authorities (and other relevant government authorities), which was apparent during the joint presentation. There is legislation relating to food contamination and chemical testing facilities, although clinical treatment facilities are limited in size. Chemical monitoring data is published on a monthly basis and investigation reports of incidents are reported annually.

There is a public health plan for the management of chemical incidents and a national coordinating body for chemical safety. There is some registration of hazardous chemical sites, but this needs to be made mandatory. There is legal provision for contaminated land and for the control of sites that are used to dispose of hazardous wastes; however there is limited ability to undertake soil testing.

Recommendations for priority actions

- Set up a coordinating "poisons centre" to enhance the functioning of chemical expertise.
- Develop and endorse a "unified" law governing chemical matters and a mandatory registration system for hazardous sites.
- Participate in international chemical/toxicological networks, such as INTOX and CHEMNET.

Indicators and scores

CE.1 Mechanisms are established and functioning for detecting and responding to chemical events or emergencies – Score 4

Strengths/best practices

- Surveillance system is now embedded at local, regional and national levels.
- Satisfactory human and financial resources.

Areas that need strengthening/challenges

- Poisons centre is needed, more as a coordination activity rather than as a physical centre.
- Communication systems for publication of monitoring data need to be streamlined.
- Participation in international chemical/toxicological networks is required.

CE.2 Enabling environment is in place for management of chemical events – Score 4

Strengths/best practices

- Established national coordinating body.
- Good legislative framework in place, but somewhat complex.
- Regular exercises conducted to observe responses.

Areas that need strengthening/challenges

- Need for a mandatory registration system for hazardous chemical sites.
- Develop a "unified law" for covering all matters pertaining to chemicals.

Radiation emergencies

Introduction

States parties should have surveillance and response capacity for radio-nuclear hazards/events/emergencies. It requires effective communication and collaboration among the sectors responsible for radio-nuclear management.

Target

States parties should have surveillance and response capacity for radio-nuclear hazards/events/emergencies. It requires effective communication and collaboration among the sectors responsible for radio-nuclear management.

Armenia: level of capabilities

Armenia has a strong history in the radiological protection field. It has operated a nuclear power station for a few decades, and has developed strong strategic plans for nuclear and radiation safety. The Armenian Nuclear Regulatory Authority (ANRA) regulates the nuclear and radiation safety of the Armenian nuclear power plant, dry spent nuclear fuel storage facility, ionizing radiation sources, RADON type radioactive waste storage facility, and of other facilities where nuclear and radioactive materials are used. There is laboratory capacity for environmental monitoring and surveillance of both people and materials. There also is a set of risk assessment and surveillance-monitoring procedures, to trigger/mount a response to a radiological incident.

There is a well-developed radiation emergency response plan with SOPs in place; and this is exercised regularly. There are also reference health care facilities with equipment and experienced staff (some with experience from the Chernobyl response) to treat radiological injuries. Armenia has a history of being requested by other jurisdictions due to its expertise and is used as an exemplar in this field.

Recommendations for priority actions

- Establish a formal training scheme to increase radiological expertise in younger generation specialists as experienced staff are retiring (not a unique situation to Armenia).
- Develop an integrated national radiological laboratory system.
- Develop a mobile decontamination facility that can be used at border crossings.

Indicators and scores

RE.1 Mechanisms are established and functioning for detecting and responding to radiological and nuclear emergencies – Score 5

Strengths/best practices

- Well-developed surveillance system and response plans.

Areas that need strengthening/challenges

- Need to increase the number of trained staff.
- Develop national integrated laboratory capacity.

RE.2 Enabling environment is in place for management of radiation emergencies – Score 5

Strengths/best practices

- Well-developed legislation and planning framework.
- Very good integration with partner authorities and government departments.

Areas that need strengthening/challenges

- Financial resources will be needed to maintain current activities in the future.

Appendix 1: Joint External Evaluation Background

Mission place and dates

Yerevan, Armenia 15-19 August 2016

Mission team members

- Dalia Samhouri, WHO/EMRO Team Lead
- John Simpson, United Kingdom, Public Health England Team Co-Lead
- Astrid Milde-Busch, Germany, Robert Koch Institute
- Martin Krayer von Krauss, World Health Organisation/EURO
- Andreas Reich, Germany, Robert Koch Institute
- Jussi Sane, National Public Health Institute, Finland
- Jessica Barry, World Health Organisation/EURO
- Ann Lindstrand, National Public Health Institute, Sweden

Objectives

- Assess the implementation of IHR (2005) capacities for surveillance and response to public health events including at points of entry.
- Review all related documents.
- Develop a report describing the progress and gaps in implementing IHR (2005) capacities.
- Recommend priority actions to update and finalize the national plan to achieve and maintain IHR (2005) capacities for global health security.

The JEE Process:

The Joint External Evaluation process is a peer to peer review. As such, it is a collaborative effort between host country experts and External Evaluation Team members. The entire external evaluation, including discussions around the scores, the strengths, the areas which need strengthening, best practices, challenges and the priority actions should be collaborative, with external evaluation team members and host country experts seeking full agreement 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 or among the host country experts, the External Evaluation Team Lead will decide the outcome; this will be noted in the Final Report along with the justification for each party's position.

Preparation and implementation of the mission

- Prior to the visit, several communications took place between the WHO Regional Office for Europe and Armenia to review the agenda, responsibilities and logistics.
- National training was conducted in July 2016 to provide national stakeholders with information and resources necessary to successfully participate in the JEE process; and provide guidance on self-reporting requirements and responsibilities for the JEE process.

- Background documents were identified and a few of them were shared with the JEE team along with the complete JEE tool for review one day before the external evaluation.
- The WHO Country Office of Armenia along with MoH, Armenia put in place the necessary administrative and logistics arrangements to facilitate the deployment of external experts to the country.
- A one-day orientation was conducted with the JEE team to orient them on the JEE process and tool, objectives and expected outcomes of the evaluation, and to discuss and finalize the agenda of the mission.
- Meetings with relevant stakeholders and field visits were conducted to validate the collected information and to reach a consensus on the scores and priority actions.
- A debriefing meeting was held with senior officials, including the deputy minister of health and national technical teams involved in the evaluation, to present the outcomes of the JEE, as well as best practices and priority actions.

Limitations and assumptions

- The evaluation was conducted in 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 made publically available.
- The evaluation is not an audit and information provided by Armenia will not be independently verified. This is a peer-to-peer review.
- The completed self-evaluation tool was shared with the external evaluation team one day before the mission arrival to the country. Therefore, there was not enough for the team to read and process the information. Only a few background documents were translated to English and shared one day before the mission arrival.
- The majority of the indicators were scored 5 based on confirmation of national availability of plans, policies and SOPs, which the team could not validate due to language barrier and time constraints. The team, however, emphasized that scoring is not the main objective of a JEE (and should therefore not be in the main focus), and priory actions that the country has to work on should be the main concern.
- The team felt that the process itself was very useful for Armenian experts since it provided the opportunity to meet with peers, and identify gaps. These may not be all reflected in the report but is known to nationals through their internal discussion.

Key participants and institutions from Armenia

Armenia lead representative

Sergey Khachatryan, Deputy Minister of Health, Ministry of Health, Republic of Armenia

Participating institutions

Ministry of Health, Public Health Department

Ministry of Health, National Center for Diseases Control and Prevention

Ministry of Health, State Health Inspectorate

Ministry of Health, Emergency Situations and Military Recruitment Preparedness Unit

Ministry of Health, National Reference Laboratory

Ministry of Health, Environmental Hygiene Unit

Ministry of Agriculture Food Safety State Service

Ministry of Emergency Situations Rescue Service

Ministry of Environmental Protection Hazardous Substances ad Waste Policy Division

State Committee on Nuclear Safety Regulation Radiation Security Department

Supporting documentation provided by Armenia

National legislation, policy and financing

- Joint Decree: on organization of the implementation of integrated electronic system for control of diseases, approved by the MoH (No. 3250-A of 18.11.2015), MoA (No. 246-A of 24.11.2015), Ministry of Territorial Administration and Emergency Situations (No. 1245-A of 01.12.2015) and the Government National Security Service (No 41-A of 10.12.2015).
- MoH Decree No. 3205-A of 13.11.2015: on approval of the guidelines on risk assessment methodology.
- Joint Decree of the Ministers of TAES No. 19-A of 15.01.2016, MoH No. 3676-A of 22.12.2015, Agriculture No. 3-A of 13.01.2016: on approval of the plague, tularemia, smallpox and influenza prevention and control program, and the 2016-2020 Action Plan as well as the notification schemes for these diseases of the MoH structural divisions, free-standing units, entities under the MoH, and health care facilities.
- MoH Decree No. 35-N of 17.12.2010: on approval of sanitary and epidemiological norms and regulations for real time electronic surveillance of communicable diseases.
- Government Decision N 1297-N of 04.10.2012: on defining the order of identification of dangerous civil Defense areas, and neutralization and disinfection of radiological, chemical and microbiological means.
- Government Decision N 943-N of 18.08.2015: on approval of the order of organization of rescue activities in radioactive contamination foci.
- Government Decision N 942-N of 18.08.2015: on approving the order of organization of rescue activities in chemical contamination foci.
- Government Decision N 967-N of 18.08.2015: on approving the order of organization of rescue activities in biological contamination foci.
- Government Decision N 480-N of 19.01.2006: on approving the National Plan on Response to Highly Pathogenic Avian Influenza Epidemic.
- Joint Decree between MoH No. 1302-A of 26.05.2015 and MoA No. 144-A of 08.06.2015: on approving the methodology of risk assessment of communicable diseases affecting humans, and those common for humans and animals.
- MoH Decree No. 1975–A of 19.08.2014: on Ebola Virus Disease epidemiology, standard case definition, treatment, prevention, infection control.
- Joint Decree of MoH and MoA No. 2925–A of 12.12.2014: on approving methodology/guidelines for brucellosis prevention, epidemiology, diagnosis, treatment, and prevention.

IHR coordination, communication and advocacy

- MoH Decree N26-N of 29.11.2010: on approving model procedure of reporting to national IHR focal point on detection of an event that may constitute a public health event due to biological, chemical and radiological factors.

- Government Decree N 1138-N of 26.08.2010: on approving cooperation mechanisms and coordination procedures of the national IHR focal point and stakeholders.
- Government Decree No. 919-N of 10.06.2011: on plan for organization of population protection during strong earthquakes.
- MoH Decree N 3102-A of 28.12.2012: on approving the preparedness and response plan in the health care system for emergency situations due to communicable diseases (for all levels and structures).
- Government Decree N 861-N of 08.07.2010: on plan for population protection during accidents at chemical facilities or chemical hazards..
- Government Decree N 22-A of 17.01.2013: on creation of a multi-disciplinary commission coordinating activities related to IHR, prevention and control of communicable diseases, and integrated laboratory network; as well as approval of the commission membership and procedures.
- Joint Decree of Minister of Health No. 46-N of 19.08.2015, Minister of MTAES No. 943-N of 17.09.2015, Minister of Agriculture 198-N of 08.09.2015. Minister of EP 274-N of 25.09.2015 'On approving the standard procedures defining cooperation mechanisms between national IHR focal point and ministries of agriculture, territorial administration and emergency situations, environmental protection.
- Joint Decree of the Minister of Health No. 13-N of 25.10.2011 and Minister of Education and Science N 1180-N of 25.10.2011: on approving the standard procedures of introduction of new public health topics in curricula of medical educational institutions of the Republic of Armenia, within the framework of cooperation of the national IHR focal point and the Ministry of Education and Science.
- Joint Decree of the Minister of Health No. 10-N of 18.10.2011 and the Minister of Economy N 933-N of 16.11.2011: on approving the standard procedures ensuring cooperation mechanisms between the national IHR focal point and the Ministry of Economy.
- Joint Decree of the Minister of Health No. 11-N of 18.10.2011 and the Minister of Economy N 934-N of 16.11.2011: on approving the standard procedures ensuring cooperation mechanisms between the national IHR focal point and the Ministry of Economy.
- Joint Decree of the Minister of Health No 12-N of 18.10.2011 and the Minister of Economy N 935-N of 16.11.2011: on approving the standard procedures ensuring cooperation mechanisms between the national IHR focal point and the Ministry of Economy.
- Joint Decree of the Minister of Health No. 14-N of 02.11.2011 and the Minister of Agriculture N 47-N of 07.11.2011: on approving the standard procedures ensuring cooperation mechanisms between the national IHR focal point and the State Food Security Service of the Ministry of Agriculture.
- Joint Decree of the Minister of Health No. 09-N of 27.09.2011 and the Head of General Department of Civil Aviation N 171-N of 03.10.2011: on approving the standard procedures ensuring cooperation mechanisms between the national IHR focal point and the General Department of Civil Aviation.
- Joint Decree of the Minister of Health No. 24-N of 06.12.2011 and the Chairman of the State Water Committee of the MTA No. 163-N of 12.12.2011: on approving the standard procedures ensuring cooperation mechanisms between the national IHR focal point and the State Water Committee of the Ministry of Territorial Administration in case of emergence of public health problems in the water sector.
- Joint Decree of the Minister of Health No. 32 of 20.06.2013, Minister of Emergency Situations No. 670-N of 05.08.2013, Minister of Environmental Protection No. 132-N of 09.07.2013, Minister of Agriculture No. 120-N of 01.07.2013: on approving standard procedures for cooperation between the national IHR focal point and the MES, MEP and MA.
- Government Decree No. 22 of 07.06.2012: on approving the timetable of multidisciplinary exercises.

Antimicrobial resistance

- MoH Decree No. 3671-A of 22.12.2015.
- MoH Decree No. 2427-A of 02.08.2016.
- WHO letter of 4 December 2015.
- Response letter No. /09/14965-15 dated 24.12.2015 of the Deputy Minister of Health addressed to WHO.
- Decree No. 59-N of the Minister of Health Decree of 14.10.2013.
- Government Decree No. 11-A of 24.03.2016.
- Government Decree No. 3337-A of 23.12.2013.
- http://www.thelancet.com/journals/laninf/article/PIIS1473-3099(14)70071-4/abstract.

Zoonotic disease

- Joint Decree of the Minister of Health No. 66-N of 13.11.2014 and the Minister of Agriculture 247-N of 01.12.2014.
- Decree of the Minister of Health of 14.07.2016 and Decree of the Minister of Agriculture N 188-A, 27.07. 2016.
- Decree of Minister of Health 1433-A of 12.05.2016.
- Government protocol decision No. 22 of 07.06.2012: on approval of the timetable of multidisciplinary training programmes.
- Government Decree 1477-N of 11.12.2008.
- Government Decree 82-N of 31.01.2008.
- Government Decree 50 of 13.12.2012: on programme on control of infectious diseases common for humans and animals.
- Guidelines on indicators for assessment of the system for epidemiological and veterinary control of infectious diseases common for humans and animals.

Food safety

- Charters of SFSS structural units and filed offices, job descriptions of inspectors, the RVSPCLS RRT.
- Instructions of the head of SFSS and the RVSPCLS, www.snund.am.
- Republic of Armenia Law on food safety.
- http://www.arlis.am/DocumentView.aspx?DocID=104105.
- http://snund.am/en/legal-acts/food-safety/the-laws/.
- Government Decree 1730-N of 30.12.2010: on (i) creation of the State Food Security Service under the RA Ministry of Agriculture; approving the SFSS Charter and structure, (ii) making amendments and additions to Government Decrees 1516-N (02.09.2002) and 1316-N (15.08.2002), (iii) making amendments to Government Decree 1032-N (24.07.2004) and (iv) annulling Government Decrees 1888-N (21.11.2002) and 1915-N http://www.arlis.am/DocumentView.aspx?DocID=84843.
- Decree of the NCDC General Director of 30.12.2014: on creation of rapid response teams of the MoH NCDC, the membership thereof and procedures.
- Decree of the Minister of Health 2115 – A of 23.12.10: on approving the guidelines on management of epidemics, issued (document translated in English in advance).

- Decree of the Minister of Health N 2014 – A of 31.08.12: on approving guidelines on epidemiological investigation of foodborne poisonings.

Biosafety and biosecurity

- MoH Order No 475-A of 19.02.2016: on approving the model manuals and SOPs on laboratory biosecurity, chemical and radiological safety, the methodological instructions on "Requirements for the first medical aid equipment, the list and the instructions for the use of such equipment in laboratories which deal with biological, chemical and radiological agents", and the methodological guideline on "Requirements for storage and use of chemical substances in chemical and biological laboratories".
- WHO laboratory biosecurity guidance (adapted).
- Government Decree No. 108-N of 12.02.2015: on approving the general requirements for laboratory biosafety, biosecurity, chemical and radiological safety systems.
- MoH Order No 3786-A of 25.12.2015: on approving the manual on ensuring laboratory biosafety in laboratories performing laboratory diagnostics of infectious diseases.
- MoH Order No 04-N of 19.02.2016: on approving the sanitary rules and hygiene norms
- N 3.1.1-032-2016: on requirements for operation of biological, chemical and radiological laboratories.
- MoH Order No. 1408-N of 06.12.2016: on approving the procedure of handling microorganisms of Group I and II pathogenicity.
- MoH Order No. 38-N of 23.06.2014: on approving the sanitary and hygienic requirements for transportation of hazardous cargo and on declaring void the MoH Order No. 1409-N of 06.12.2006.
- MoH Order No. 475-A of 19.02.2016: on approving the model manuals and SOPs on laboratory biosecurity, chemical and radiological safety, the methodological instructions on "Requirements for the first medical aid equipment, the list and the instructions for the use of such equipment in laboratories which deal with biological, chemical and radiological agents", and the methological guideline on "Requirements for storage and use of chemical substances in chemical and biological laboratories".
- Government Decree No. 108-N of 12.02.2015: on approving the general requirements for laboratory biosafety, biosecurity, chemical and radiological safety systems.
- MoH Order No. 3786-A of 25.12.2015: on approving the manual on "Ensuring laboratory biosafety in laboratories performing laboratory diagnostics of infectious diseases".
- MoH Order No. 475-A of 19.02.2016: on approving the model manuals and SOPs on laboratory biosecurity, chemical and radiological safety, the methodological instructions on "Requirements for the first medical aid equipment, the list and the instructions for the use of such equipment in laboratories which deal with biological, chemical and radiological agents", and the methological guideline on "Requirements for storage and use of chemical substances in chemical and biological laboratories".
- MoH Order No. 04-N of 19.02.2016: on approving the sanitary rules and hygiene norms N 3.1.1-032-2016 on "Requirements for operation of biological, chemical and radiological laboratories.
- MoH Order No. 1408-N of 06.12.2016: on approving the procedure of handling microorganisms of Group I and II pathogenicity.
- MoH Order No. 38-N of 23.06.2014: on approving the sanitary and hygienic requirements for transportation of hazardous cargo and on declaring void the MoH Order No. 1409-N of 06.12.2006.
- MoH Order No. 3788-A of 25.12.2015: on approving the methodological guideline on "Assessment of biological risks in laboratories performing laboratory diagnostics of infectious diseases and risk-based classification of the laboratories" and the biological risk assessment tools.

- Republic of Armenia Government System for protection against PDP: Agreement between the Armenia and USA governments, 2011.
- MoH Order No. 1411-A of 17.06.2014: On approving the standard operational procedures for storage and processing of infectious agents in accordance with international requirements.
- MoH Order No. 1405-A of 17.06.2014: On approving the standard operational procedures for dangerous waste management and biological, chemical and radiological hazards response in the laboratory services.
- MoH Order No. 3132-A of 27.12.2014: on approving the lists for classification of PDP and laboratories handling PDP based on the level of danger in accordance with international requirements.
- Republic of Armenia Government Decree No. 43-A of 31.01.2014: on establishing a professional coordination board and security (biosafety) commission for the universal laboratory network management and on approving the nominal list of members thereof.
- MoH Order No. 203-A of 07.02.2014: on approving the working procedures of the professional coordination board and security (biosafety) commission for the universal laboratory network.
- Joint Order on approving the methodological guideline on "Requirements for conformance of the personal and collective protection equipment used in chemical and biological laboratories", by: MoH Order No. 2647-A of 29.09.2015, MoA Order No. 204-A of 02.10.2015, Minister of Territorial Administration and Emergency Situations (MoTA & ES) Order No. 1064-A of 08.10.2015, MoD Order No. 13-A of 06.10.2015 and MoA Chief of State Food Safety Service Order No. 1006-A of 02.10.2015.

Immunization

- http://www.gavi.org/country/armenia/documents/cmyps/comprehensive-multi-year-plan-for-2011-2015/
- http://moh.am/?section=news/open&id=143&nid=3288
- http://moh.am/?section=news/open&id=143&nid=117
- http://moh.am/?section=news/open&id=143&nid=2091
- https://www.youtube.com/watch?v=Yq7rJRlXhXY
- http://armeniasputnik.am/radio/20160710/4233691.html
- http://www.nitag-resource.org/news-and-events/news/73-voices-from-the-field-gayane-sahakyan-the-%20executive-secretary-of-the-armenian-nitag
- http://moh.am/?section=news%2Fopen&id=143&nid=39
- https://web.facebook.com/1455050464736078/photo
- https://web.facebook.com/groups/693854794063217/
- https://web.facebook.com/groups/apcmembersmail/
- https://web.facebook.com/groups/kksenyak.am/
- http://www.armstat.am/am/?nid=81

National laboratory system

- Government Protocol Decree No. 20 of 23.05.2013: on approving the strategic programme for the universal laboratory network creation and the 2013-2014 action plan thereof (document translated in English in advance).
- MoH Order No. 2019-A of 24.07.2013: on establishment of working groups to coordinate activities

related to implementation of the universal laboratory network (document translated in English in advance).

- Government Decree No. 206-N of 03.03.2016: on approving the requirements set for reference laboratories and the procedure of their acknowledgement (checked with translation on site).
- Several MoH orders: http://www.moh.am/ (in Armenian, most relevant orders checked with translation on site).
- Accreditation and list of accredited laboratories, http://www.mineconomy.am/arm/570/free.html.

International programmes:

- http://www.iqls.net/?Pn=Article_View&Article_Id=101.
- http://www.medilabsecure.com/project_objectives.html.

Site visits to two laboratories:

- Reference laboratory of the National Center for Disease Control and Prevention in Yerevan.
- Regional laboratory in Gyumri (Shirak Branch of the NCDC).

Real-time surveillance

- Government Decree No. 35-N of the Minister of Health dated 17.12.2010 'On approval of sanitary and epidemiological norms and rules of real time electronic surveillance of communicable diseases'.
- Decree of General Director of the NCDC No. 20-L of 29.12.2014: on creation of NCDC hotline service, approval of the latter's operational procedures and the model form of duty shifts.
- MoH Decree 3385-N of 27.11.2015: on approval of the administrative statistical report form.
- Joint Decree: on organization of implementation of the Integrated Electronic Disease Surveillance System (IEDSS) approved by MoH Decrees (18.11.2015 No 3250-A), MA (24.11.2015, No 246-A), MTAES (01.12.2015, No 1245-A) and National Security Service (10.12.2015, No 41-A).
- Decree of General Director of the NCDC No. 22-L of 30.12.2014: on setting rapid response teams (RRT) within the NCDC, and approving the RRT membership and procedures.
- Decree of General Director of the NCDC No. 3919-A of 15.12.2014: on implementation of analytical systems at all levels of NCDC.
- MoH Decree No. 2597-A of 28.09.2013: on approval of guidelines on surveillance and evaluation indicators according to the levels.
- MoH Decree No. 3089-A of 24.12.2014: on approving the procedure for data validation, the checklist and plan-timetable.
- MoH Decree No. 3205-A of 13.11.2015: on approval of the guidelines on risk assessment methodology - epidemiological investigation.
- MoH Decree No. 2965-A of 15.12.2014: on approving the guidelines for acute cardiac infarction, diabetes and breast cancer surveillance system.
- MoH Decree No. 74-N of 27.12.2014: on approving sanitary and epidemiological norms N 3.1.1–028–2014 on chemical poisonings and radiation exposure surveillance.
- MoH Decree No. 3088-A of 24.12.2014: on approving the guidelines on chemical poisonings and radiation exposure surveillance.
- MoH Decree 845-A of 11.04.2015: on approving the training programme on prevention and control of nosocomial infections for health workers.

- MoH Decree 1403-A of 17.06.2015: on approving the SOP on sampling organs from rodents and corps with pathological and anatomical abnormalities'.
- MoH Decree No. 3402-A of 27.11.2015: on approval of the training manuals on introduction of inactivated vaccines in the National Immunization Calendar, and organization and conduct of trainings and workshops for health care workers.
- MoH Decrees 2008-A: on amendments to the MoH Decree 1315-A (27.05.2015) on measles control and prevention activities and MoH Decree (24.07.2015) on amendments to the MoH Decree 1315-A of 27.05.2015.
- MoH Decree No. 1941-A: on administration of preventive vaccination in pre-conscription age males in the Republic of Armenia of 18.07.2015.
- MoH Decree No. 19-N of 09.11.2012: on approving the immunization-related administrative statistical reporting forms and Instructions on their population, as well as deeming void MoH Decree No. 19-N of 29.10.2009.
- MoH Decree No. 2587-A of 22.12.2011: on approving the guidelines on E. coli and its resulting hemolytic - uremic syndrome; and guidelines on management of patients with E. coli and its resulting hemolytic - uremic syndrome.
- MoH Decree No. 29-N of 08.12.2010: on polio surveillance in Republic of Armenia.
- MoH Decree No. 886-A of 15.03.2015: on continuing implementation of influenza sentinel surveillance system in Yerevan, Kapan, Vanadzor, Nairi and Ijevan cities and deeming void MoH Decree No. 1881 of 15.08.2012.
- http://www.armstat.am/en/?nid=82.
- http://www.moh.am/?lang=en.

Reporting

- Government Decrees:
  - 809-N (19.07.2009)
  - 913-N (06.08.2009)
  - 957-N (04.09.2014)
  - N 1138-N (26.08.2010).
- Terms of reference, national IHR focal point.
- MoH Decree # 26 of 29.11.2010: on approval of the standard procedure of national IHR focal point notification of a public health emergency due to biological, chemical and radiological factors.

Workforce strategy

- Joint order of the Minister of Health (No. 46-N of 19.08.2015), Minister of Territorial Administration and Emergency Situations (No. 943-N of 17.09.2015), Minister of Agriculture (N 198-N of 08.08.2015) and Minister of Nature Protection (No. 274-N of 25.09.2015): on approving the standard procedure ensuring collaboration mechanisms and establishing processes between the national coordination body and the ministries of agriculture, territorial administration and emergency situations, and nature protection.
- Government Decree No. 919-N of 10.06.2011: on approving the plan of protection organization of the RA population in case of strong earthquakes.
- MoH order No. 3102-A of 28.12.2012: on approving infectious disease emergency preparedness and response plan in the healthcare system (for all levels and agencies).

- Government Decree No. 861-N of 08.07.2010: on population protection plan in case of accidents in Republic of Armenia chemical facilities or a chemical danger.
- NCDC General director's order No. 22-L of 30.12.2014: on approving the procedure of establishment of rapid response teams of the Republic of Armenia MoH National Center of Disease Control and Prevention state non-commercial organization, and the composition and operation procedure of the rapid response teams.
- Government Decree No. 1134-N of 17.10. 2013: on reorganization of a number of state non-commercial organizations and close joint stock companies and establishment of National Center of Decease Control and Prevention state non-commercial organization.
- Government Decree No. 857-N of 25.07.2013: on amendments and addenda to Government Decree No. 1300-N of 15.08.2002, Government Decree No. 1821-N of 14.11.2002, and Government Decree No. 1319-N of 30.09.2010, as well as on declaring void the Government Decree No. 1146-N of 29.07.2004, Government Decree No. 1893-N of 06.10.2005, Government Decree No. 1724-N of 25.11.2004, and Government Decree No. 1316-N of 15.08.2002.
- Minister's order 02.10. 2015No 2702-A- On the appointment of MediPIET national center for professional development and national focal point, establishment and adapt of MediPIET national committee and the staff
- MoH order No 35-N of 17.12.2010: on approving sanitary-epidemiological norms and rules of electronic epidemiological surveillance of infectious diseases in real time.
- MoH NCDC General Director's order No 3919-A of 15.12.2014: on introduction of analysis system on all levels of the National Center of Disease Control and Prevention state non-commercial organization.
- MoH order No 2597-A of 28.09.2013: on approving "Epidemiological analysis and evaluation indicators by levels" methodological guideline".
- Government decree No 952-N of 04.09.2014: on approving the lists of medical, stomatological, pharmaceutical, public health professions and narrow specialties of the RA healthcare sector.
- Government Decree No 1936-N of 05.10.2002: on approving the conditions and requirements for the equipment and staff qualifications for provision of healthcare and medical services by polyclinics (joint – adults and children's), individual specialized offices, family doctors' offices, medical ambulatories, rural health centers, nursing posts, women's consultations, and (specialty) hospitals.
- MoH order No. 3713-A of 24.12.2015: on approving qualification specifications of medical professions in the field of healthcare.
- Government Decree No. 5 of 06.02.2014: on approving the healthcare human resource development strategy and the list of activities.

Preparedness, Emergency response operations and Linking public health and security authorities

- Government Decree No. 384-N of 10.04.2003.
- Government Decree No. 1532-N of 13.11.2003.
- Government Decree No. 2328-N of 22.12.2005.
- Government Decree No. 861-N of 08.07.2010.
- Government Decree No. 919-N of 06.07.2010.
- Government Decree No. 1064-N of 29.07.2004.
- Government Decree No. 1064-N of 29.07.2004.

- Government Decree No. 943-N of 18.08.2015.
- Government Decree No. 8 of 03.03.2016.
- Government Decree No. 480-A of 19.01.2006.
- Government Decree No. 1138-N of 26.08.2010.
- Government Decree No. 777-N of 22.06.2012.
- Government Decree No. 8 of 03.03.2016.
- Law: on state material reserve.
- Government Decree No. 281-N of 07.03.2012.
- Joint order of the Minister of Health (No. 46-N of 19.08.2015), Minister of Territorial Administration and Emergency Situations (No. 943-N of 17.09.2015), Minister of Agriculture (N 198-N of 08.09.2015) and Minister of Nature Protection (No. 274-N of 25.09.2015).
- Joint order: on methodology of assessment, management and reduction of risks of infectious diseases common for humans, humans and animals (Republic of Armenia MoH No. 1302-A of 26.05.2015, No. 144-A of 08.06.2015).
- MoH No. 3205-N of 13.11.2015: on methodological guideline, risk assessment methodology. epidemiological investigation.

Medical countermeasures and personnel deployment

- Government Decree N 1431-P of 14.10.2004: on regulation process for formation, receipt, accounting and distribution of medicines and medical countermeasures, received on behalf of the Ministry of Health as humanitarian assistance.
- Government Decree N 923-P of 13.08.2015: on defining the order for formation, preservation and provision of the state reserve for rapid response.
- Government Decree N 52-P of 29.01.2016: on defining the list and accumulation norms for state reserve stocks of materials for rapid response.
- Government Decree N 919-P of 10.06.2011: on approval the plan for organization of population protection of the Republic of Armenia during severe earthquake.
- Decree of the Higher Council of the Republic of Armenia of 28.07.1992: on ratification of the Collective Security Treaty of Independent States Cooperation. http://mfa.am/en/international-organisations/CSTO/
- Agreement of the Republic of Armenia on joining EurAsEc on May 29, 2014. http://mfa.am/en/international-organisations/EurAzES/

Risk communications

- Ministry of Emergency Situation [website] www.mes.am.
- Law on "Population protection in emergency situations", 1998.
- Government decision No 15-N of 19.04.2012: on endorsement of "Procedures and plan of actions on increase of population awareness (certain groups), dissemination of health knowledge and promotion of healthy lifestyle during outbreaks (epidemics), chemical and/or radiological emergencies, as well as in non-emergency situations.
- Government decision No 46-N of 22.01.2015: on preparedness of state government and local self-government bodies and organizations for public and civil protection in emergency situations, as well as

regulations for emergency preparedness training of the general population and revoking article 30 of the Government decision No 134-N.

- Government decision No 259-N of 03.03.2016: on establishment of "Staff of the MES" state organization; Charter and staff structure of MES, amendments in a number of Government decisions.
- Decision of the Minister of Emergency Situations No 416-A of 10.07.2016: to conduct a drill on establishment and functioning of intersectoral joint information center in case of emergency (major earthquake) on July 19-20, 2016.

Points of entry

- Government Decrees:
  - N1418 (10.06.2011)
  - N 702 (12.05.2011)
  - N-777 (2011)
  - N 1138-N (26.08.2010)
- Joint Decrees 320-A/34-A/4095-A/2390-A from different sectors establishing joint training programmes concerning biological risks for points of entry staff.
- National Action Plan for a 'Single Window' approach at border entry points (2015-2017) within N1404-N of 11.12.2014)
- MoH Decree # 629A of 12.04.2011: on attaching healthcare facilities to sanitary quarantine points.

Chemical events

- Law on Waste (2004).
- Government Decree #121-N of 30.01.2003: on approval of the procedure for licensing hazardous waste processing, disinfection, protection, transportation, and locating activities.
- Government Decree #2291-N of 09.12.2005: on approval of the procedure for approval of projects on waste normatives and the locating benchmark volumes.
- Government Decree #47-N of 19.01.2006: on defining the procedure for waste identification/ description.
- Government Decree #500-N of 20.04.2006: on defining the procedure for register on waste accumulation, processing and useful substance extraction.
- Government Decree #1180-N of 13.07.2006.
- Government Decree #1343-N of 14.09.2006: on waste accumulation, removal (elimination, disinfection, locating) and useful substance extraction.
- Government Decree #1343-N of 14.09.2006: on defining the procedure for waste registration: waste accumulation, removal (elimination, disinfection, locating) and useful substance extraction.
- Government Decree #1739-N of 07.12.2006: on defining the state procedure for waste registration.
- Government Decree #90-N of 05.02.2015: on making amendments in Government decree #327-N of 15.03.2007 and approval of the lists of prohibited or restricted products for transition through customs of the RA, approval on the export and import license and application forms and defining licensing peculiarities for export and import of some products.
- Government Decree #144-N, 18.01.2007: on defining the procedure for waste management state cadaster.

- Government protocol resolution #30, 23.07.2009: on approval on conditions for safety use of construction and dismantled waste.
- Government protocol resolution #48 of 19.10.2009: on approval of the indicators of the main types of accumulated industrial and consumer waste and the list of accumulated due to various technological processes.
- Order of the Minister of Nature Protection #342-N of 26.10.2006: on approval of the list of accumulated industrial and consumer waste (including mining) on the territory of the RA.
- Order of the Minister of Nature Protection 430-N of 25.12.2006: on approval of the list of waste classified according to danger level.

Radiation emergencies

- Government Decree No. 2328-N: on approval of the national population protection plan (off-site plan of the Armenian nuclear power plant), clearly establishes responsibilities of the governmental authorities and other relevant organizations of preparedness and response to Armenian nuclear power plant nuclear and radiation emergencies.
- Government protocol decision as of 18 March 2016: on approval of national response plan for nuclear and radiological emergencies.
- The ANRAs Statute.
- Government Decree No. 1263 as of 24.12. 2001: on approval of special rules on transportation of nuclear and radioactive materials (development of this document were fully based on IAEA transportation rules ST-R-1 revised based on SSR-6) and Government Decree No. 931-N as of 27.06.2002: on approval of the procedure for safe transport of nuclear and radioactive materials.
- Government Decree No. 553-N as of 03.05.2007: the legal act on the approval of the detection and isolation of orphan radio-active materials.

WHO/WHE/CPI/2017.14