

JOINT EXTERNAL EVALUATION OF IHR CORE CAPACITIES

of

MONGOLIA

Mission report:
May 12-19, 2017



**World Health
Organization**

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Abbreviations

AMR	Antimicrobial resistance
AMU	Antimicrobial use
APSED III	Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies
BSL	Biosafety level
EBS	Event-based surveillance
EOC	Emergency operation centre
EOP	Emergency operation point
EQA	External Quality Assessment
EVM	Effective Vaccine Management
EWAR	Early Warning, Alert and Response
FAO	Food and Agriculture Organization of the United Nations
GASI	General Agency for Specialized Investigation
HCAI	Healthcare-associated infection
GOARN	Global Outbreak Alert and Response Network
IAEA	International Atomic Energy Agency
IBS	Indicator-based surveillance
ICT	Information and communication technology
IHR	International Health Regulations
IHR NFP	National Focal Point
IMS	Incident management system
INFOSAN	International Network of Food Safety Authority Network
IPC	Infection prevention and control
IVM	Institute of Veterinary Medicine
JEE	Joint External Evaluation
MCM	Medical countermeasures
MEF	Monitoring and Evaluation Framework
MET	Ministry of Environment and Tourism
MFETP	Mongolian Field Epidemiology Training Programme
MOD	Ministry of Defence
MOFALI	Ministry of Food, Agriculture and Light Industry
MOH	Ministry of Health
NCCD	National Centre of Communicable Disease
NCZD	National Centre of Zoonotic Disease
NEC	Nuclear Energy Commission

NEMA	National Emergency Management Agency
OIE	World Organisation for Animal Health
PoE	Point of entry
PPE	Personal protective equipment
RRT	Rapid Response Teams
SOP	Standard operating procedure
SCVL	State Central Veterinary Laboratory
TAG	Technical Advisory Group
VABA	Veterinary and Animal Breeding Agency
WHO	World Health Organization

Executive summary

Introduction

This report is the product of a Joint External Evaluation (JEE) of the capacity of Mongolia to prevent, detect and rapidly respond to public health threats of a natural, deliberate or accidental nature. The assessment uses the World Health Organization (WHO) International Health Regulations (IHR, 2005) JEE tool. Mongolia is the fourth Member State in the Western Pacific Region to voluntarily conduct a JEE of IHR (2005) core capacities. The JEE is a voluntary process, it is multisectoral in approach, it is a peer-to-peer collaboration to reach a consensus and it is transparent in nature. It enables countries to identify priority actions to enhance their health security, to foster partnerships with stakeholders and to mobilize resources.

Health security threats from infectious diseases and public health emergencies are inevitable and the international community is universally vulnerable. In recognition of this situation, the WHO developed the International Health Regulations (IHR) 2005 to help the international community prevent, detect and respond to acute public health events with potential to cross borders and threaten populations worldwide. The IHR (2005) require that countries develop core capacities to manage acute public health events. Over the past decade, Mongolia has been guided by the Asia Pacific Strategy for Emerging Diseases (APSED) in advancing implementation and maintenance of IHR (2005) core capacities. The Ministry of Health of Mongolia has demonstrated its leadership and commitment to managing health security by using APSED as a guide to develop and implement the Mongolian national multi-year Plan for Emerging Infectious Diseases and Public Health Emergencies. It is expected that priorities identified through the JEE will contribute to the revision, updating and implementation of priority activities in this Plan.

The JEE is a key component of the IHR Monitoring and Evaluation Framework (MEF). It uses a standard tool to measure national capacities across 19 technical areas related to health security. The JEE is a collaborative peer-to-peer review that provides the opportunity to sustain momentum in strengthening health security through revision and implementation of the national work plan. Once updated, the plan is expected to serve as a common framework to coordinate health security activities and resource mobilization in Mongolia, under various national and international initiatives.

The JEE Team is grateful for the collaborative, open and transparent dialogue throughout the JEE process, and the strong commitment of Mongolia towards enhancing its IHR (2005) core capacity requirements.

Key findings

Mongolia has made strong progress to strengthen capacities to prepare, detect and respond to health security threats. Some of the most significant examples of this enhanced capacity include:

- National surveillance and response systems have been greatly improved through a commitment to periodically review the system through after-action reviews, and to make the necessary corrective adjustments as required.
- Mongolian Field Epidemiology Training Programme (MFETP) graduates now form a critical part of the national surveillance and response system. The Programme is now fully funded by Mongolia, it incorporates participants from non-health agencies, its alumni act as mentors for the current and recent intakes, and it actively promotes the publishing and sharing of the results of its applied research. As a consequence, it is considered an example of best practice in sustainable workforce development.

- Sectors collaborate well during public health emergency responses, supported by a broad inter-sectoral National One Health Coordinating Committee that spans national, aimag and soum levels, and the establishment of multi-sectoral joint rapid response teams (RRTs) in all aimags. This collaboration will be further strengthened by a draft new Regulation on “information exchange between sectors and rapid response during potential disasters and public health emergencies” that is with the Deputy Prime Minister for approval.
- Multi-sectoral public health emergency plans are regularly tested through exercises, and updated.
- A culture of learning and continuous improvement is demonstrated through annual reviews of IHR (2005) implementation progress, regular revision of the national Plan for Emerging Infectious Diseases And Public Health Emergencies, regular exercises (including the IHR Exercise Crystal) and after-action reviews, annual reporting during the Technical Advisory Group (TAG) on APSED meeting and the early participation of Mongolia in the JEE process. This drive to continuously improve extends to a commitment to undertake regular and rigorous reviews of the effectiveness of the legal framework.
- New emergency operations centres, with supporting regulatory, administrative and review arrangements, in the health and other sectors, have established a strong platform from which to improve public health emergency preparedness. This includes a mechanism for coordinating and sharing information during outbreaks and public health emergencies.

Although excellent progress has been made to meet IHR (2005) requirements, Mongolia still faces challenges in a number of areas. For example:

- Coordination between human and animal health sectors exists, but is not fully functional or routinely practiced with other sectors. This is particularly the situation for antimicrobial resistance (AMR) detection programmes in the veterinary and food sectors and coordination between all sectors.
- Some public health functions, e.g. the maintenance of stockpiles of essential drugs and other supplies, are duplicated across different government departments.
- Public health human resources are not sufficient to meet all health security threats, and technical, managerial and leadership capacities should be strengthened. The need for more qualified medical and veterinary personnel is highest at local levels.
- Funding for health security activities is inadequate across a range of IHR core capacities, including, but not limited to risk communications, extending the scope of the MFETP, enhancing national surge capacity to address large scale outbreaks and other public health emergencies.

Recommendations

To strengthen the capacity of Mongolia to effectively manage health security threats as required by the IHR (2005), the Government of Mongolia may consider the following recommendations:

1. Ensure the inclusion of health security into the next revision of Mongolia’s 2030 Sustainable Development Vision and work towards the Sustainable Development Goals;
2. Revise, implement and monitor the national Plan for Emerging Infectious Diseases And Public Health Emergencies to take into consideration the recommended priority actions from the JEE mission, as guided by the Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies (APSED III);
3. Increase and ensure access to sustainable funding for the implementation of the national Plan for Emerging Infectious Diseases and Public Health Emergencies and strengthen mechanisms for the provision of timely financing for public health emergency response;
4. In line with the State Policy for Health, develop and implement a national action plan for human resource development including a public health workforce with technical, managerial and leadership competencies;

5. Enhance institutional policies, plans, procedures and linkages to reduce duplication and facilitate improved multi-sectoral communication, coordination and collaboration on preparedness and response to all types of public health emergency. This would include finalization, operationalization and monitoring of the Regulation On Information Exchange Between Sectors And Rapid Response During Potential Disasters And Public Health Emergencies; and
6. Further promote a culture of review, continuous learning and quality improvement in the area of health security using after-action reviews, regular exercises, annual national planning and review meetings (including APSED TAG) and JEEs.

Mongolia scores

Technical areas	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)	3
	P.1.2 The State can demonstrate that it has adjusted and aligned its domestic legislation, policies and administrative arrangements to enable compliance with IHR (2005)	3
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	3
Antimicrobial resistance	P.3.1 Antimicrobial resistance detection	2
	P.3.2 Surveillance of infections caused by antimicrobial-resistant pathogens	3
	P.3.3 Health care-associated infection (HCAI) prevention and control programmes	3
	P.3.4 Antimicrobial stewardship activities	2
Zoonotic diseases	P.4.1 Surveillance systems in place for priority zoonotic diseases/pathogens	4
	P.4.2 Veterinary or animal health workforce	2
	P.4.3 Mechanisms for responding to infectious and potential zoonotic diseases are established and functional	3
Food safety	P.5.1 Mechanisms for multisectoral collaboration are established to ensure rapid response to food safety emergencies and outbreaks of foodborne diseases	3
Biosafety and biosecurity	P.6.1 Whole-of-government biosafety and biosecurity system is in place for human, animal and agriculture facilities	2
	P.6.2 Biosafety and biosecurity training and practices	2
Immunization	P.7.1 Vaccine coverage (measles) as part of national programme	4
	P.7.2 National vaccine access and delivery	4
National laboratory system	D.1.1 Laboratory testing for detection of priority diseases	4
	D.1.2 Specimen referral and transport system	3
	D.1.3 Effective modern point-of-care and laboratory-based diagnostics	3
	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 Integration and analysis of surveillance data	4
	D.2.4 Syndromic surveillance systems	4
Reporting	D.3.1 System for efficient reporting to FAO, OIE and WHO	3
	D.3.2 Reporting network and protocols in country	3
Workforce development	D.4.1 Human resources available to implement IHR core capacity requirements	3
	D.4.2 FETP ¹ or other applied epidemiology training programme in place	4
	D.4.3 Workforce strategy	3
Preparedness	R.1.1 National multi-hazard public health emergency preparedness and response plan is developed and implemented	3
	R.1.2 Priority public health risks and resources are mapped and utilized	2

¹ FETP: Field epidemiology training programme

Emergency response operations	R.2.1 Capacity to activate emergency operations	3
	R.2.2 EOC operating procedures and plans	3
	R.2.3 Emergency operations programme	3
	R.2.4 Case management procedures implemented for IHR relevant hazards.	3
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	3
Medical countermeasures and personnel deployment	R.4.1 System in place for sending and receiving medical countermeasures during a public health emergency	2
	R.4.2 System in place for sending and receiving health personnel during a public health emergency	2
Risk communication	R.5.1 Risk communication systems (plans, mechanisms, etc.)	3
	R.5.2 Internal and partner communication and coordination	3
	R.5.3 Public communication	3
	R.5.4 Communication engagement with affected communities	3
	R.5.5 Dynamic listening and rumour management	3
Points of entry	PoE.1 Routine capacities established at points of entry	3
	PoE.2 Effective public health response at points of entry	3
Chemical events	CE.1 Mechanisms established and functioning for detecting and responding to chemical events or emergencies	2
	CE.2 Enabling environment in place for management of chemical events	3
Radiation emergencies	RE.1 Mechanisms established and functioning for detecting and responding to radiological and nuclear emergencies	3
	RE.2 Enabling environment in place for management of radiation emergencies	3

PREVENT

National legislation, policy and financing

Introduction

The International Health Regulations (IHR) (2005) provides obligations and rights for States Parties. In some States Parties, implementation of the IHR (2005) may require new or modified legislation. Even if a 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 that identify national structures and responsibilities as well as the allocation of adequate financial resources are also important.

Target

Adequate legal framework for States Parties to support and enable the implementation of all their obligations, and rights to comply with and implement the IHR (2005). New or modified legislation in some States Parties for implementation of the IHR (2005). Where new or revised legislation may not be specifically required under the State Party's legal system, States may 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 ensure provision of adequate funding for IHR implementation through the national budget or other mechanism.

Mongolia level of capabilities

Mongolia has a well-established legal and regulatory framework that supports the implementation of IHR (2005). This includes the existence of numerous laws, regulations, resolutions and ministerial orders that are issued from different levels of government, and from different technical institutions and agencies within and beyond the health sector. This IHR (2005) consistent framework stresses multi-sectoral coordination and collaboration, communicable diseases, public health events, and the use of an all-hazards definition.

The following are the most important aspects of this legal and regulatory framework supporting the implementation of IHR (2005). The Law on Disaster Protection defines disasters consistent with IHR (2005), requires a multi-sectoral coordinated response and specifies sources of funding. The Law on Health establishes public health surveillance and response policy and defines the international quarantine diseases as those named in the IHR. Various other government regulations and ministerial orders designate the National Centre for Communicable Diseases (NCCD) as the National IHR Focal Point (NFP), establish the IHR Coordinating Committee, establish the organizational structure for surveillance and response for communicable diseases and food-borne diseases, and require twice-yearly emergency drills for health facilities to be accredited. The Law of Food and the Law on Food Safety are largely focused on end-product quality. A new Law on Animal and Livestock Health, currently before Parliament, will strengthen: early warning and response preparedness; hygiene of raw animal products; zoonotic diseases and public health services; regulation of drugs; and responsibilities of the key legal entities. The Nuclear Energy Law governs detection, assessment and response to radiation emergencies and subsequent Resolutions of the Nuclear Energy Commission (no. 6 of 2015 and no. 1 of 2016) specify indicators for triggering a response to such emergencies and require all legal entities using radiation sources to develop and implement radiation emergency preparedness plans.

Mongolia is committed to regularly reviewing this legal framework. Government Resolution No. 322 of 2013 requires that the implementation of laws, national programmes and policy documents are regularly assessed. In addition, the legal framework is reviewed after major public health emergencies to incorporate lessons learnt. Examples include: the Law on Health was revised in 2011 following lessons from the 2009 H1N1 pandemic; the review of instruments governing public health surveillance and response in 2016 following the 2015 measles outbreak; and the assessment of the laws for food safety controls in 2016.

These internal reviews have been supplemented by external reviews, such as: the World Organisation for Animal Health (OIE) 2012 assessment of the legal framework for veterinary services, which concluded there were significant gaps and deficiencies; the 2016 study of food safety by Food and Agriculture Organization of the United Nations (FAO), which is pending finalization; and the International Atomic Energy Agency (IAEA) expert mission reports of 2007 and 2012. These reviews have resulted in significant adjustments to the legal framework to improve compliance with IHR (2005). The most notable improvements include: the revision and pending approval of standard operating procedures (SOPs) for multisectoral event-based surveillance (EBS), risk assessment, laboratory, risks communications and response; the revision of the Law on Food and the Law on Food Safety to strengthen risk prevention, establishing good food handling practices, product tracing and Hazard Analysis and Critical Control Point system, and enhanced monitoring of food handlers; the drafting and presentation to Parliament of a new Law on Animal and Livestock Health; and the revision of the National Emergency Plan on Protection from Radiological Hazards to improve the clarity of roles and responsibilities, public communication, stockpiling of equipment, decontamination of people and the environment, and evacuation issues.

Recommendations for priority actions

- Develop, operationalize and monitor implementation of a multi-sectoral plan to implement the draft Regulation on information exchange between sectors and rapid response during public health emergencies.
- Better resource Mongolia's health security programme by:
 - Increasing funding for IHR core capacity strengthening (e.g. public health workforce, surveillance and risk assessments, laboratory system, public health emergency preparedness including the health facility preparedness, and multi-sectoral coordination mechanisms); and
 - Enhancing the funding mechanisms for outbreak and public health emergency response.
- Strengthen law enforcement and continue periodic review to address inconsistencies.

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 3

Strengths/best practices

- High-level commitment to implement the IHR through a legal framework that extends beyond the health sector (i.e. Prime Minister and Deputy Prime Minister Level).
- Commitment to regularly review the effectiveness of the elements of the legal framework and make adjustments. Recent major legal framework adjustments to improve IHR (2005) consistency include: Law on Disaster Protection (2017), and Law on Health (2011).
- Legal Framework now supports implementation of IHR (2005) by: using an all-hazards definition; establishing a surveillance and response policy; making provision for funding of public health mitigation activities; and requiring multisectoral coordination and collaboration for preparation, detection and response activities.

Areas that need strengthening/challenges

- While there is a legal requirement for inter-sectoral coordination, collaboration, information exchange and response during disasters and public health emergencies, further strengthening of this is required.
- Early-warning, notification, reporting, surveillance and response to food-borne diseases is regulated by an Order of the Ministry of Health (No. 185 of 2008). However, systems for exchange of information on food-borne diseases and food contamination between the NCCD and General Agency for Specialized Investigation (GASI) should be strengthened.
- While there is a legal requirement to provide adequate financing for long-term sustainability, through the Law on Disaster Protection (Provisions 51.2 and 51.3) and the Law on Special Government Funds (Provisions 8.2 and 8.3), the evidence is inconsistent that adequate and timely funding is being provided during major public health emergencies (especially in areas like health facility preparedness and laboratory capacity) and for major public health emergency preparedness activities (e.g., training and public awareness).
- While adequate legal requirements exist, enforcement is recognised as the main challenge, e.g., in food safety.
- Some relatively minor gaps exist in regulatory and administrative arrangements, e.g., it would be desirable for the National Emergency Management Agency (NEMA) to support the requirement for an Incident Management System (IMS) through issuing a Ministerial Order; and incorporating general standards for labelling and food hygiene into a Regulation.

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 3

Strengths/best practices

- A multisectoral working group was established in 2016 to improve consistency of legislation with IHR (2005) requirements.
- A formal mechanism for assessment of the legal framework (including laws, regulations and orders) requires regular monitoring, evaluation and internal audits of relevant ministries and subsequent revision of the framework that applies across many sectors relevant to IHR (2005), including the human health, animal health, food safety and nuclear sectors.
- Recent reviews of IHR sectors, e.g., human health (multisectoral assessment of existing public health surveillance and response [2016]), animal health (OIE 2012), and food safety (FAO 2016), continue to improve consistency with IHR (2005).
- Draft “Regulation on information exchange between sectors and rapid response during potential disasters and public health emergencies” is with the Deputy Prime Minister for approval.

Areas that need strengthening/challenges

- Major aspects of the legal framework have been reviewed and appropriate improvements made following major emergencies. However, these reviews are often limited to a specific sector and comprehensive multi-sectoral reviews are limited. However, the 2016 policy review of the 2015 measles outbreak has provided evidence that this situation may be changing.
- There is a need to update food safety standards to be consistent with the Codex Alimentarius.
- There is a need to finalize proposed legislation to address the gaps and deficiencies identified in the 2012 OIE legislative review that are relevant to zoonotic disease control and managing AMR risks.
- There is a need to respond to the FAO food safety study (2016) recommendations, once finalized, that relate to food chain enhancements and other IHR issues.

IHR coordination, communication and advocacy

Introduction

The effective implementation of the IHR requires multisectoral and multidisciplinary approaches through national partnerships for efficient alert and response systems. Coordination of nationwide resources, including the designation of a national IHR focal point, which is a national centre for IHR communications, is a key requisite for IHR implementation.

Target

Multisectoral/multidisciplinary approaches through national partnerships that allow efficient, alert and responsive systems for effective implementation of the IHR (2005). Coordinate nationwide resources, including sustainable functioning of a national IHR focal point – a national centre for IHR (2005) communications which is a key requisite for IHR (2005) implementation – that is accessible at all times. States Parties provide WHO with contact details of national IHR focal points, continuously update and annually confirm them.

Mongolia level of capabilities

Mongolia has well-developed capacity in IHR coordination, communication and advocacy. The NCCD is designated as the NFP as per Order No. 151, Ministry of Health (2010). The NCCD serves as the Secretariat of the IHR Coordinating Committee and leads the Technical Advisory Teams to coordinate issues related to IHR (2005) and acute public health events.

Formal coordination is established between the human and animal health sectors through an intersectoral committee that facilitates timely information-sharing and collaboration on zoonotic diseases. However, there is no formal NFP coordination with non-communicable disease partners, other sectors, or other levels of government.

Coordination between sectors on information exchange and rapid response on outbreaks and other potential public health emergencies exists and is defined in draft cross-sectoral surveillance and response procedures to be approved by Order of the Deputy Prime Minister and Chairman of the Standing Council.

An IMS and Emergency Operations Centre (EOC) in the Ministry of Health (MOH) were introduced in 2015, to enhance coordination for public health events. Regular exercises with national, subnational and international partners are strengthening coordination across sectors. However, IMS structures are not yet clear and procedures are not clearly defined.

Mongolia is well aligned with APSED in approach to building generic all-hazard capacities, fostering collaboration and partnerships, and in monitoring and evaluation.

Recommendations for priority actions

- Sustain and enhance the essential functions of the NFP, including the updating and testing of the NFP SOPs for managing event communications.
- Strengthen and test public health emergency response plans and procedures through enhanced multisectoral and multidisciplinary coordination and communication, applying IMS principles.
- Continue to implement the new IHR Monitoring and Evaluation Framework, which includes an annual stakeholder review of IHR status, the JEE, and the development of an updated national action plan for health security as guided by APSED III.

Indicators and scores

P.2.1 A functional mechanism established for the coordination and integration of relevant sectors in the implementation of IHR – Score 3

Strengths/best practices

- The NFP function is managed well and supported by an annual work plan, IHR Coordinating Committee (of which the NFP is the Secretariat), Technical Advisory Teams, EOC and IMS.
- Intersectoral communication and coordination mechanisms have been established to coordinate the work of IHR implementation, including a human and animal health joint committee on zoonoses and an IHR coordinating committee.
- Regular exercises to test IHR IMS and emergency procedures (including official NFP communications with WHO) and reviews of major outbreak responses are held.

Areas that need strengthening/challenges

- Managing the expanded functions of the NFP, including updating and testing SOPs on event communication. NFP must be available 24/7 and have authority to coordinate/direct multisectoral actions.
- There are no formal procedures for information-sharing and risk assessment across sectors and at the sub-national level.
- There is a need to further strengthen public health emergency preparedness and response, including pandemic influenza preparedness planning.

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. Antimicrobial resistance is evolving at an alarming rate and is outpacing the development of new countermeasures capable of thwarting infections in humans. This situation threatens patient care, economic growth, public health, agriculture, and economic and national security.

Target

Support work coordinated by FAO, OIE and WHO to develop an integrated global package of activities to combat antimicrobial resistance, spanning human, animal, agricultural, food and environmental aspects (i.e. a One Health approach). Each country has: (i) its own national comprehensive plan to combat antimicrobial resistance; (ii) strengthened surveillance and laboratory capacity at the national and international levels following international standards developed as per the framework of the Global Action Plan; and (iii) 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.

Mongolia level of capabilities

Mongolia has plans and strategies that specifically address antimicrobial resistance (AMR). Its AMR detection and prevention practices are advanced in the human health sector. The Strategy on Prudent Use of Antibiotics and Prevention of AMR (2013-2017) was approved in 2012. The mid-term review of this strategy identified the need for a more multi-sectoral approach to AMR surveillance and control. To address this, an inter-sectoral working group to revise the Strategy, with representatives from the human health, veterinary and food sectors was appointed. The AMR National Action Plan (National Multi-sectorial Action Plan on Combatting Antimicrobial Resistance, 2017-2020) was approved in 2017. Thus, Mongolia has a clear, national AMR control strategy and is addressing cross-sectoral engagement.

An established AMR surveillance programme comprises routine testing in tertiary hospitals and is required in other health facilities, including private inpatient hospitals. Surveillance for AMR pathogens causing humans infections is included in the indicator-based surveillance (IBS) system, the Early Warning, Alert and Response (EWAR) system and the event based surveillance (EBS) system. No systematic surveillance for AMR pathogens in animals or animal-derived food is currently carried out. Laboratory capacity is validated through external quality assurance (EQA), including aimag and soum laboratories. However, research shows that laboratory technicians at decentralized laboratories require capacity-building to improve AMR detection.

Antibiotic stewardship to date includes regulations to control antibiotic sales. More stewardship action with public awareness and continuing professional education is required to conserve treatments in both the human and the veterinary sectors. It should be noted that Mongolia is a large country with low human population density and a vast livestock population. This creates challenges for outreach to decentralized facilities as well as to the enforcement of prudent antimicrobial use regulations.

Recommendations for priority actions

- Mongolia should follow its AMR National Action Plan, National Multi-sectorial Action Plan on Combatting Antimicrobial Resistance (2017-2020), in line with APSED III, including:
 - Strengthen laboratory staff capacity for, and research into antimicrobial use and AMR detection;
 - Enhance surveillance of infections caused by AMR pathogens and share data, including alerts on newly emerging AMR patterns; and
 - Promote effective prevention and control for healthcare-associated infection (HCAI).
- Develop more harmonized, cross-sectoral surveillance by extending AMR detection practices from the human health sector to also include the food and veterinary sectors.
- Optimize prudent antimicrobial use through stewardship activities, including public awareness communication, prescribing guidelines for medical and veterinary clinicians and regulatory control.

Indicators and scores

P.3.1 Antimicrobial resistance detection – Score 2

Mongolia's capacity exceeds P.3.1 score of 2 in the human health sector, which has designated laboratories that conduct detection and reporting of some priority AMR pathogens.

Strengths/best practices

- A list of priority pathogens for laboratory testing has been approved and includes four of seven WHO priority AMR pathogens.¹
- Whilst there is no designated national AMR laboratory, the NCCD and the Institute for Veterinary Medicine are national laboratories for human health and veterinary sectors, respectively.
- Health facility laboratories are required to participate in AMR surveillance. Eleven hospitals regularly notify NCCD on AMR detection.
- Laboratory EQA includes two of six tests for AMR pathogens. All aimag and soum/district laboratories participate in EQA.

Areas which need strengthening/challenges

- Systematic AMR detection is not conducted in the veterinary and food sectors.
- Laboratory technicians require capacity-building for AMR testing particularly in decentralized laboratories.
- SOP for AMR detection testing are needed as well as associated capacity-building for their implementation.
- AMR findings require linkage to best practice advice and alerts in order to support medical and veterinary clinicians with their therapeutic choices (and see P.3.4 below).
- Field and laboratory-based research is required to better understand both antimicrobial use and AMR.

¹ E.coli, K. pneumonia, S. aureus, S. pneumoniae are included; Salmonella spp, Shigella spp and N gonorrhoeae are not included.

P.3.2 Surveillance of infections caused by antimicrobial-resistant pathogens – Score 3

To fully meet the capacity requirements of P.3.2, capacity for surveillance of infections caused by AMR pathogens in animals must be strengthened.

Strengths/best practices

- Surveillance for AMR detection is carried out at all tertiary units (three central hospitals, five Regional Diagnostic and Treatment Centres and ten specialized centres). There are 11 designated sentinel sites at which surveillance is carried out. Secondary centres, including private hospitals, are also required to conduct laboratory testing.
- The WHONET AMR recording system is operational in eight hospitals.
- IBS system monthly reports (from the Ministry of Health's Centre for Health Development) are published on MOH website.
- EWAR and EBS findings are shared through NCCD at the EOC weekly meetings and through an email distribution list.

Areas which need strengthening/challenges

- The veterinary sector does not yet conduct surveillance of infections caused by AMR pathogens in animals.
- There are no sentinel sites in the veterinary sector.

P.3.3 Health care-associated infection (HCAI) prevention and control programmes – Score 3

Strengths/best practices

- A National Strategy on Strengthening the Infection, Prevention and Control (IPC) System in Healthcare Facilities was implemented 2012 to 2016.
- Instructions on HCAI protection for healthcare workers have been approved (Annex 4, the Order of Health Minister No. 187 of 2014). These instructions address both pre and post-exposure HCAI prophylaxis.
- At a dedicated training centre in NCCD, 85% of IPC staff (950 persons) were trained in IPC practices.
- Protocols for investigating suspected HCAI clusters are in place under the Regulation for Sustainable Disease Surveillance.
- There is a system to evaluate the effectiveness of the implemented infection control measures including quarterly hospital IPC committee meetings and checklists for hospitals to assess IPC component implementation.

Areas which need strengthening/challenges

- IPC Teams should hold regular meetings and make recommendations for good practice. All private hospitals should have a staff member designated to IPC practices.
- Isolation facilities may require improvements to enhance biosafety.

P.3.4 Antimicrobial stewardship activities – Score 2

Strengths/best practices

- The 2017 AMR National Action Plan describes activities to raise awareness and understanding of AMR and rational antimicrobial use targeting the general public, herdsmen and health professionals.
- A survey on proper antibiotic administration was carried out by the Centre of Health Development.

- A regulation exists requiring the reporting of antibiotic use patterns.

Areas which need strengthening/challenges

- A programme for improving public awareness and providing mass education is required to inform the general public on appropriate antimicrobial use, considering that antimicrobials are reportedly on general sale.
- Medical and veterinary clinicians require continuing professional education on appropriate prescribing practices for antimicrobials.
- Enforcement of regulations on general sale of antibiotics to humans should be widely implemented.
- Regulations on animal antibiotic use in the vast national herd are very challenging to enforce, but antimicrobial sales should be controlled to reduce indiscriminate use.
- At central level (e.g. MOH, Ministry of Food, Agriculture and Light Industry [MOFALI]) there is a need to analyze the monthly reports on antimicrobial use and AMR from healthcare facilities and use these alerts to provide feedback and guidelines for best AMU practice.

Zoonotic diseases

Introduction

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

Mongolia level of capabilities

Cross-sectoral systems are in place for surveillance and response to priority zoonotic diseases, including plague, rabies, anthrax, brucellosis, echinococcosis, avian influenza, and tick-borne diseases. These are overseen by a multisectoral One Health Coordinating Committee. National exercises and reviews have demonstrated strengths as well as a need to improve the legal framework, to strengthen human resources and access to diagnostic services especially at local levels, and to build capacities in wildlife health.

The impact of capacity gaps at local levels is reflected in difficulties diagnosing endemic zoonoses, as illustrated by an underestimate of approximately 90% of acute cases of human brucellosis. The human-animal interface in Mongolia is unique, and combined with the seriousness of long established zoonoses, requires particular attention.

Investments to address these requirements will have a synergistic effect of building capacity to detect and respond to emerging zoonoses.

Recommendations for priority actions

- Increase the number and quality of medical and veterinary staff at local levels and provide them with coordinated continuing education.
- Improve surveillance for zoonoses, including neglected endemic zoonoses, and strengthen capacity to diagnose these diseases at the sub-national level (i.e., aimags).
- Ensure adequate funding for long term programmes to control priority endemic zoonoses while building response capacity for new and emerging zoonoses.

Indicators and scores

P.4.1 Surveillance systems in place for priority zoonotic diseases/pathogens – Score 4

Strengths/best practices

- Joint surveillance and reporting for priority diseases is conducted.
- Daily/monthly reports flow from soum to aimag and national levels.
- Weekly event risk assessments are shared amongst partners (via electronic newsletter).
- Compensation is provided for livestock slaughtered for disease control.
- Multisector planning and reviews are conducted.

Areas which need strengthening/challenges

- Laws and systems for active and passive disease surveillance to support early detection and response for new and emerging diseases and priority endemic zoonoses require strengthening.
- Intersectoral sharing of surveillance information needs to be improved.
- Local diagnostic testing capacity requires strengthening.
- Collaboration with wildlife agencies to identify relevant zoonoses requires strengthening.

P.4.2 Veterinary or animal health workforce – Score 2

Strengths/best practices

- An effective and sustainable Mongolian MFETP was extended to veterinarians in 2013.
- One Health training for human and animal health workers has been provided at aimag and soum levels.
- Livestock population statistics are available from the National Statistics Office.

Areas which need strengthening/challenges

- Veterinary duties are at times performed by non-veterinarians at central and soum levels.
- Central direction and oversight of animal health programmes by the Chief Veterinary Officer should be extended to aimag and soum levels.
- Establish a management development pathway as part of an animal health workforce development programme.
- Strengthen training for human and animal health professionals at local levels including the MFETP that combines a shared core curriculum with specialized human animal elements.

P.4.3 Mechanisms for responding to infectious and potential zoonotic diseases established and functional – Score 3

Strengths/best practices

- A National One Health Coordinating Committee spans national, aimag and soum levels.
- Engagement of MOFALI and MOH with NEMA under a National Disaster Management Plan.
- Inter-sectoral joint RRTs are established and trained in all 21 aimags; an effective joint RRT response was mounted to control an outbreak of rabies in 2017.
- Geospatial surveillance, mapping and vaccination are performed for anthrax foci.

Areas which need strengthening/challenges

- An IMS should be extended to the sub-national level.
- There is a need to improve collaboration between the Ministry of Environment and Tourism (MET) and other Ministries/Agencies on zoonotic diseases.
- Sustainable funding for control of priority endemic zoonotic diseases is required.
- Monitoring and evaluation of disease response and control measures, including the effectiveness of vaccination programmes, needs to be improved.

Food safety

Introduction

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

Target

Surveillance and response capacity among States Parties for food- and water-borne disease risks or events by strengthening effective communication and collaboration among the sectors responsible for food safety, and safe water and sanitation.

Mongolia level of capabilities

The Cross-Sector Strategy on Ensuring Food Security (2016-2021) approved in 2015 by the National Council on Food Security, seeks to review and improve implementation of relevant laws and regulations and to strengthen cross-sector collaboration on food security. This strategy is expected to reshape the legal and regulatory landscape for food safety, along with recommendations of a recent external review commissioned by the Government of Mongolia that proposes the creation of a Mongolian Food Safety Authority to address issues of fragmentation and to improve harmonization with Codex Alimentarius standards.

Meanwhile, existing legislation and a National Food Safety Committee provide operational links for surveillance and response activities, spanning the food safety, human health and animal health sectors. Needs identified include, better access to testing for a wide range of pathogens and improved legal and technical capacity to address chemical hazards. Programmes for public education were also identified as offering opportunities to improve understanding of the benefits and risks of traditional methods for food harvesting, storage and processing.

Recommendations for priority actions

- Strengthen the legal framework to better support food safety surveillance and response activities.
- Improve food-borne disease testing capacity with new methods and assays.
- Strengthen human resource capacity for risk assessment and multisectoral response teams, particularly at the sub-national level.

Indicators and scores

P.5.1 Mechanisms for multisectoral collaboration established to ensure rapid response to food safety emergencies and outbreaks of foodborne diseases – Score 3

Strengths/best practices

- There is a functioning intersectoral legal environment (e.g., National Food Safety Committee and Ministerial Order No.185 to improve surveillance, reporting, detection and investigation of foodborne diseases).
- A national system for the inspection of food premises is in place with indicators to assess performance through a monitoring and evaluation framework.
- Human resources at the central level are adequate, with intersectoral teams that respond to foodborne disease outbreaks.
- Epidemiological capacity for outbreak investigation has been improved with MFETP involvement.
- An emergency operation mechanism is established in the health sector.
- Planning and review activities have been conducted (e.g. a food-borne disease review and simulation exercises).

Areas which need strengthening/challenges

- A revised legal and institutional framework should promote horizontal coordination across disciplines and the adoption of modern risk-based food safety standards compatible with international norms.
- Effective surveillance throughout the food chain requires timely access to a broader range of tests for emerging foodborne pathogens (bacterial and viral) as well as chemical hazards supported by a network of laboratories (see D.1- National Laboratory System).
- The EOC mechanism should be extended to include GASI and MOFALI.
- Functioning of the Emergency Contact Point for the International Network of Food Safety Authority Network in Mongolia should be improved.
- Personnel working in this field need further training in basic epidemiology and laboratory testing methods.

Biosafety and biosecurity

Introduction

Research with infectious agents is critical for the development and production of tools to detect, diagnose, recognize and respond to outbreaks of infectious diseases of both natural and deliberate origin. However, the expansion of infrastructure and resources dedicated to work with infectious agents poses a challenge to ensuring 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 with especially dangerous pathogens identified, held, secured and monitored in a minimal number of facilities according to best practices; biological risk management training and educational outreach conducted to promote a shared culture of responsibility, reduce dual-use risks, mitigate biological proliferation and deliberate use threats, and ensure safe transfer of biological agents; and country-specific biosafety and biosecurity legislation, laboratory licensing and pathogen control measures in place as appropriate.

Mongolia level of capabilities

While biosafety and biosecurity are recognized as key components of the national laboratory system, this technical area requires attention and improvement. Across the country, levels of containment are mainly biosafety levels 1 (BSL-1) and 2 (BSL-2). There is one level 3 (BSL-3) facility in the country at the State Central Veterinary Laboratory (SCVL). A second BSL-3 facility is planned at the NCCD. A National Committee on Biosafety was established in 2008 with members from different sectors. However, the committee meets only once a year for a high-level review of the status of biosafety in the country.

Manuals for laboratory biosafety procedures are available for public health and veterinary sectors, however these require updating. There are good efforts to securely store and maintain records of dangerous pathogens at national level; however, more investment in biosecurity is required. Regular maintenance and servicing of biosafety cabinets is an area that requires attention. Training in biosafety and biosecurity practices are mainly ad-hoc or project-based and a better understanding of training needs is required. While a dedicated biosafety officer has been identified in some major laboratories, their function and ability to perform their task has to be strengthened.

Recommendations for priority actions

- Update and review laboratory manuals and SOPs according to the latest local situation and international practices. It is recommended to start updating when the revised WHO biosafety manual becomes available in 2018.
- Improve biosafety and biosecurity practices through identification of a dedicated biosafety officer in major laboratories. Time and resources should be made available to this person to perform their duty.
- Assess gaps and determine options to develop a national training programme for biosafety and biosecurity.

Indicators and scores

P.6.1 Whole-of-government biosafety and biosecurity system in place for human, animal and agriculture facilities – Score 2

Strengths/best practices

- Biosafety and biosecurity are recognized as important components of the laboratory system.
- A National Committee on Biosafety was established in 2008 with members from different sectors.
- Manuals for laboratory biosafety procedures are available for public health and veterinary sectors.
- Attention to securely store and maintain records of dangerous pathogens at national level.

Areas which need strengthening/challenges

- Periodic updating and review of laboratory guidance, protocols and SOPs.
- Biosafety officers need to be in place with time and support allocated to this responsibility.

P.6.2 Biosafety and biosecurity training and practices – Score 2

Strengths/best practices

- Recognition by all sectors that biosafety and biosecurity training and practices require attention.
- Facilities and human resources are available to conduct biosafety and biosecurity trainings to be used when a curriculum or trainings have been developed.

Areas which need strengthening/challenges

- Needs assessment for biosafety and biosecurity training is needed to inform planning.
- Development of a biosafety and biosecurity curriculum.
- Increase number of staff certified in shipping of infectious substances.
- Periodic exercise and improve when necessary SOPs, including spill management and emergency evacuation.

Immunization

Introduction

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

Target

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

Mongolia level of capabilities

In Mongolia, there is a well-established immunization programme which consists of seven vaccines covering 11 diseases. Vaccination coverage has been generally high. Mongolia has sustained its polio-free status, is on-track with measles elimination (measles elimination certification in 2014), and has attained accelerated control of hepatitis B. There is, however, room for improvement. The recording and reporting system is paper-based and there are limited funds for operational activities, including, outreach, vaccine coverage surveys and serosurveys.

During 2015, a major measles outbreak occurred in the country with approximately 2500 cases. It demonstrated the importance of early detection and response in order to reduce the risk and mitigate the impact of outbreaks and public health emergencies. EWAR was instrumental in the detection of the measles outbreak, further confirming the importance of the linkage between the immunization programme and the department working on health security.

The scope of the JEE does not intend to conduct a full evaluation of the immunization programme, rather examine the interface of IHR capacity and the immunization programme. A mechanism to evaluate the immunization programme and to provide specific recommendations on the national immunization programme already exists.

Recommendations for priority actions

- To establish strong links between the immunization programme and the agency responsible for health security, in order to use existing IHR capacities (including both IBS and EBS) for rapid detection and reporting of vaccine preventable diseases.
- To continue strengthening the existing immunization programme and the agency responsible for health security in their joint preparedness in response to potential vaccine preventable disease outbreaks.

Indicators and scores

P.7.1 Vaccine coverage (measles) as part of national programme – Score 4

Strengths/best practices

- There is a well-established immunization programme with generally high vaccination coverage.
- A culture of learning from experience exists through after-action reviews, e.g., the conducted in 2016 of the through after-action reviews.

Areas which need strengthening/challenges

- There is a need to continue to strengthen the existing vaccination programme.
- There is a need to utilize generic IHR core capacities for outbreak alert and detection.

P.7.2 National vaccine access and delivery – Score 4

Strengths/best practices

- Strong government support and commitment to support the national vaccination programme exists, including efforts targeting marginalized populations.
- There is effective vaccine management according to the assessment conducted in 2015.
- There is a need to strengthen existing immunization programmes and the agencies responsible for health security their joint preparedness and response to potential vaccine preventable disease outbreaks.

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.

Mongolia level of capabilities

In the human health sector, there are two national laboratories (NCCD and the National Centre for Zoonotic Diseases [NCZD]), 21 hospital laboratories in aimags, nine soum laboratories in Ulaanbaatar and 14 zoonosis laboratories under NCZD. There are laboratory surveillance networks in place for priority infectious diseases through the EWAR system, as well as networks for tuberculosis, influenza-like illness and invasive bacterial diseases.

In the animal health sector, there are three national laboratories (Institute of Veterinary Medicine [IVM], SCVL and the State Laboratory for Testing and Certification of Veterinary Drugs), one city, and nine district laboratories in Ulaanbaatar, and 21 provincial laboratories.

Food inspection laboratories are under the responsibility of GASI. There is a national laboratory, one city, 21 local, and six border laboratories that conduct chemical and microbiological testing on food.

All public laboratories in Mongolia are obligated to follow the standards according to the Law of Standardization and Accuracy Evaluation that was approved in 2003, in order to be accredited for official and legal implementation of activities.

There are many players in the national laboratory system in Mongolia across sectors and across different levels within the country (i.e., local and national). Coordination of the laboratory system and understanding of the individual laboratories' roles and responsibilities and their interactions is a challenge. There is no regulatory framework, feedback mechanism or formal communication between sectors.

Recommendations for priority actions

- Develop a national laboratory strategic plan in line with APSED III.
- Improve the specimen referral and transport system through review, adjustment and exercises with all stakeholders.
- Establish a mechanism to ensure maintenance of laboratory equipment for optimal and safe performance. Attention to maintenance of Biosafety Cabinets at all levels within the country is required.

- Ensure financial support to provide a well-functioning and staffed laboratory system.

Indicators and scores

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

Strengths/best practices

- National laboratory system is capable of conducting six core tests identified by the International Health Regulations plus at least four tests for national priority diseases.

Areas which need strengthening/challenges

- Work towards sustainable capacity with a system for procurement and quality assurance.
- Improve capacity to diagnose zoonoses in the provinces.

D.1.2 Specimen referral and transport system – Score 3

Strengths/best practices

- Referral system follows a tiered network from sub-national to national to international.
- Dedicated referral networks for influenza and tuberculosis appear to function well.
- There is a legal framework in place to support specimen referral.

Areas which need strengthening/challenges

- The referral system operates well for some disease-specific networks but difficulties exist with emerging infectious diseases and novel/unknown or dangerous pathogens, e.g. Crimean-Congo haemorrhagic fever.
- Challenges with specimen referral are often outside the control of laboratories and related to infrastructure, couriers, administrative procedures and cost.
- Limited availability of certified shippers and shipping materials.

D.1.3 Effective modern point-of-care and laboratory-based diagnostics – Score 3

Strengths/best practices

- Tier-specific diagnostic testing strategies are in place.
- Point-of-care diagnostics are available and routinely used (e.g. Human immunodeficiency virus, syphilis and Hepatitis B and C).

Areas which need strengthening/challenges

- There is a lack of national policy to support and increase point-of-care diagnostics.
- There is a need to strengthen point-of-care testing at local levels to allow national level laboratories to focus on analysis and control measures. This will also improve health service delivery and access at the local level.

D.1.4 Laboratory quality system – Score 4

Strengths/best practices

- Emphasis on laboratory accreditation and many laboratories have received accreditation.
- Existence of a Department of Accreditation responsible for national laboratory accreditation.
- Reference laboratories participate in EQA at international level, e.g. influenza.

- EQA conducted at national level for influenza, bacteriology and tuberculosis.

Areas which need strengthening/challenges

- For the human health sector, only NCCD at national level has been accredited as ISO15189. There is room to accredit more human health laboratories at the national and local levels.

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 biosurveillance 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 intermediate level regional capacity to analyse and link data from and between strengthened, real-time surveillance systems, including interoperable, interconnected electronic reporting systems. This would 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 OIE standards.

Mongolia level of capabilities

Mongolia has a comprehensive surveillance system consisting of both IBS and EBS, managed by NCCD and NCZD. The core system for rapid detection includes: EWAR (established since 2007 and currently includes five syndromes), suspected cases for 15 infectious diseases, five specific medical conditions and more recently an EBS. Surveillance systems have been pivotal in detecting outbreaks such as measles in 2015 (EWAR) and foodborne disease outbreaks at schools (EBS).

Over the past decade, surveillance systems have been strengthened in Mongolia. Concerted efforts have been made to strengthen surveillance capacity in Mongolia's national work plan using APSED as a framework. The MFETP, established in 2009, has laid the foundation in strengthening surveillance in the country. Periodic review and evaluations have been conducted to continue to improve the system.

One of the challenges is the existence of multiple institutes that are working on surveillance (e.g., notifiable disease reporting, zoonotic disease surveillance and influenza-like-illness surveillance). Information sources need to be collated and assessed in a timely manner for informed decision making. Mongolia has established an EOC at the MOH, and also corresponding units (Emergency Operation Points) at other institutes and at subnational level. These national and subnational units are not only activated during public health emergencies, but also collectively take part in surveillance, information sharing and risk assessments. While great progress has been made through collaboration, more work is required to formalize collaboration, minimize duplication and improve efficiency in surveillance, risk assessment and response. In 2017, an SOP on multi-sectoral information sharing, risk assessment, risk communication, laboratory networking and response was developed and has been submitted for approval by the Deputy Prime Minister.

Recommendations for priority actions

- Further strengthen mechanisms (both officially and unofficially) to collaborate existing IBS/EBS surveillance, by building on existing IHR capacity for rapid detection, risk assessment and response.
- Upgrade the reporting system using modernized information and communication technology (ICT) for a unified web-based, timely reporting system, which is adaptable to evolving needs (such as outbreaks).
- Sustain investment in rapid detection, risk assessment and response nationally, and internationally.

Indicators and scores

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

Strengths/best practices

- Substantial progress has been made in surveillance in the past decade, but there is a need for continuous investment.
- Strong ownership and good alignment to the IHR requirement under the APSED framework (in the past and in the current national work plan).

Areas which need strengthening/challenges

- Vertical surveillance systems (i.e., IBS and EBS and many disease-specific) are managed by a number of organisations or are project-based.
- There is a need to further strengthen mechanisms to coordinate existing systems for early detection, risk assessment and response.
- Sustained government funding is required.

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

Strengths/best practices

- Periodic reviews and evaluations are conducted to improve the reporting system.
- Rapid development of digital infrastructure in Mongolia offers opportunities for improvements in reporting.

Areas which need strengthening/challenges

- Electronic systems need to be updated and interconnected, and have the potential to be integrated and unified into one system.
- There is a need to use ICT for the next-generation of electronic, web-based reporting system that integrates multiple information sources to improve timeliness and reduce duplication.
- There is a need to consider options for real-time surveillance when developing the integrated national health information system in the next WHO Country Cooperation Strategy given the importance of healthcare workers as source of information.

D.2.3 Integration and analysis of surveillance data – Score 4

Strengths/best practices

- The MFETP, which was established in 2009 and, has been crucial for human resource development for the integration and analysis of surveillance data.
- The EOC has been used as a hub for integrating inputs from IBS and EBS for risk assessment and decision-making (i.e. information for action).

Areas which need strengthening/challenges

- Electronic systems need to be updated and interconnected, and then have the potential to be integrated and unified into one system.
- Enhancement of the mechanism for information gathering (official and unofficial) and interpretation is needed, within and beyond the health sector (i.e. sectors responsible for other priority hazards).

DETECT

D.2.4 Syndromic surveillance systems – Score 4

Strengths/best practices

- EWAR is in place for five syndromes, 15 diseases, and five specific medical conditions

Areas which need strengthening/challenges

- Electronic systems need to be updated and interconnected, and then have the potential to be integrated and unified into one system.
- There is a need to strengthen the integration of laboratory information into existing IBS and EBS systems.

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.

Mongolia level of capabilities

In Mongolia, an established NFP located at the NCCD reports to WHO. The designation of NCCD as the IHR NFP has been officially approved by the Order of the Health Minister No. 151 of 2010. The NFP participates in the annual WPRO IHR Exercise Crystal to test the functionality of the IHR reporting mechanism. There is also an OIE contact point (Chief Veterinary Officer at the Veterinary and Animal Breeding Agency [VABA]) to report animal diseases to OIE.

As IHR reporting covers multiple hazards in addition to infectious diseases, there are challenges to consolidate information from multiple sources in a timely manner. Information sources are housed within the health sector (e.g. NCCD, NCZD and other vertical programmes) and beyond the health sector (e.g. animal health, non-biological hazards such as disaster, radiation and chemical events).

Substantial effort has been made in Mongolia to coordinate different information sources from surveillance systems. Since 2014, the MOH EOC mechanism has been in place; however, the NFP's role in multisectoral coordination and communication needs to be officially defined. This includes expansion of EBS beyond infectious diseases, coordinated risk assessment, risk communication and response. In 2017, an SOP on multisectoral information sharing, risk assessment, risk communication, laboratory networking and response was developed and has been submitted for approval by the Deputy Prime Minister.

Although there has been good progress in the development of IHR core capacities, further improvement is required, with consideration not only at the national but also at sub-national levels.

Recommendations for priority actions

- Enhance the collation of information in a timely manner, both within and beyond health sectors (e.g. animal health, non-biological hazards such as disasters, chemical events) – See D.2. Real-time surveillance.
- Emphasise the importance of the NFP function, and maintenance of IHR core capacity not only at the national but sub-national levels.

Indicators and scores

D.3.1 System for efficient reporting to FAO, OIE and WHO – Score 3

Strengths/best practices

- The NFP was established in 2010 at the NCCD and is accessible at all times (24/7).
- There is an OIE contact point, Chief Veterinary Officer, at VABA.
- An EOC/IMS mechanism, which coordinates and disseminates information, has been developed.

Areas which need strengthening/challenges

- There is a need to continue to advocate for the importance of the NFP and OIE contact point functions
- There is a need to recognize the importance of information sharing with the international community.

D.3.2 Reporting network and protocols in country – Score 3

Strengths/best practices

- The NFP functions have been officially designated by Health Minister Order (No 151 of 2010).
- The MOH EOC is used in coordinating information.
- There is regular participation in the annual WPRO IHR Exercise Crystal.

Areas which need strengthening/challenges

- There is a need to further strengthen communication among the human and animal health sectors, and other sectors responsible for disasters and non-biological public health emergencies.

Workforce development

Introduction

Workforce development is an essential component of a public health system especially national disease and event surveillance and response systems. Effective implementation of IHR requires multidisciplinary human resource capacity and it is vital to develop and maintain a highly qualified public health workforce with technical, managerial and leadership competencies.

Target

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

Mongolia level of capabilities

Mongolia has developed capacity in human resources to meet IHR core capacity requirements, including ensuring that there is a functional national surveillance and response system. However, further strengthening is required, including, addressing the need for multidisciplinary teams, the issue of staff turnover, maintaining a skilled public health and veterinary workforce at local levels.

The MFETP is the cornerstone of Mongolia's public health workforce development. Established in 2009, the modified one-year programme aims to strengthen the public health system through training well-qualified professionals in applied epidemiology. The Programme was restructured in 2012 with four full-time staff and short-term supervisors. In 2013, it was included in the annual budget plan and expanded to include a veterinary stream. Majority of MFETP graduates are retained within the public health system and play key roles in surveillance and response. There is a plan to advance MFETP, and the governmental commitment is high including financial sustainability. Currently a MFETP strategic plan 2016-2018 has been developed to further strengthen the public health system through training of well qualified professionals in applied epidemiology at all levels.

There are a number of short courses in epidemiology and statistics that are organised by government departments and institutions. In addition, the National University of Medical Sciences offers a five year undergraduate training for public health specialists as well as graduate degree trainings. Although there are training courses in surveillance and epidemiology, challenges remains in the number of public health specialists required to meet surveillance and response needs, including the establishment of multidisciplinary RRTs, especially at the local level.

A career development pathway of health workers, including public health professionals, was endorsed by a Ministerial Health Order No. 168 of 2012. The pathway specifies financial incentives for professionals attaining three different specialization levels. However, retaining public health specialists in the public health sector poses a challenge, and high staff turnover exists. Efforts are underway to define specific career development pathways as a way of attracting and retaining public health specialists.

The national public health workforce is financed from the state budget. There was a Health Sector Human Resource Development Policy (2010-2014) that was approved through an Order of the Health Minister in 2009. A review of the implementation of policy was conducted. The Government Resolution in 2017 on Approval of the State Policy on Health (2017-2026) covers areas to address human resources in health. This provides an opportunity to strengthen Mongolia's health workforce, including the development of a

public health workforce with technical, managerial and leadership competencies. A plan is underway to develop a national action plan for health workforce development in line with the newly endorsed State Policy for Health.

Recommendations for priority actions

- Maintain and advance MFETP through financial sustainability and expanded scope (including new training modules, RRT training and networking).
- Develop and implement an updated national action plan (or equivalent) for human resource development including a public health workforce strategy, in line with health sector reform.
- Strengthen public health and veterinary workforce at local levels.

Indicators and scores

D.4.1 Human resources available to implement IHR core capacity requirements – Score 3

Strengths/best practices

- Multidisciplinary human resource capacity is available at national and intermediate level.
- The MFETP is an integral component of the national surveillance and response system.
- A number of on-the-job short-term training courses are in place.

Areas which need strengthening/challenges

- The current public health workforce in the country is not adequate to fulfil all the IHR core capacity requirements.
- Multidisciplinary human resource capacity is limited at sub-national level.
- High turnover of public health personnel remains a challenge.

D.4.2 FETP or other applied epidemiology training programme in place – Score 4

Strengths/best practices

- The MFETP has been progressing well and it is fully managed and funded by the government, serving as a good example of a sustainable programme for public health workforce development.
- There is a step-by-step approach to advance the MFETP (e.g. plan for additional training modules and RRT training).

Areas which need strengthening/challenges

- There is a need to ensure financial sustainability in advancing MFETP.
- There is a need to ensure continued investment in advancing MFETP through inclusion of new training modules and innovative approaches.

D.4.3 Workforce strategy – Score 3

Strengths/best practices

- National policy on health workforce has been included in the State Policy on Health (2017-2026).
- A managerial career development pathway for public health specialists exists.
- National public health workforce is financed from the government budget.

Areas which need strengthening/challenges

- A public health workforce strategy or action plan is not fully developed.

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 maintenance 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.

Mongolia level of capabilities

An all-hazards national prevention, response and recovery plan has been approved by the Government of Mongolia. The “Plan of Action on Protection from Disaster and Rescue of Life, Property and Livestock, and Disaster Damage Elimination” was approved by the Government Resolution No. 416 in 2015. The Plan incorporates IHR-related hazards, including communicable diseases, chemical contamination, radionuclear and food safety hazards. Furthermore, every ministry is required to have a sector-specific disaster protection plan according to the Law on Disaster Protection (2017). As such, MOH acts as the main focal point during public health emergencies related to communicable diseases. The Plan itself does not incorporate points of entry. However, ground crossings have their own emergency preparedness plans as per Provisions 8.1 and 8.2 of the Law on Disaster Protection.

Regulatory support includes: Emergency Notification approved by Government Resolution No. 339 in 2011; Emergency Mobilization and Evacuation Plan approved by Government Resolution No. 340 in 2011; and the Government Resolution No. 416 in 2015 which mandates that individuals, organizations, enterprises, soums, districts, provinces and cities should revise annually their disaster protection plans, including provisions for resource allocation and stockpiling.

Surge capacity to respond to public health emergencies is limited, as demonstrated by acute shortages of hospital beds during seasonal outbreaks of influenza-like-illness every winter. However, financial resources for the response to public health emergencies can be mobilized from the State Reserve Fund, which is replenished with budget allocations of up to one-percent of annual GDP according to the Law on Special Government Funds.

The Disaster Research Institute under NEMA is responsible for conducting pre-event risk assessments for all hazards, including emerging infectious diseases. Results from risk assessments are available in annual reports of the Institute. National profiles on risk and resources are reviewed during updating of disaster

preparedness plans. Risk assessment has become a routine practice, however, an all-hazards public health risk and resource mapping would be helpful for the prioritization of preparedness and response.

Recommendations for priority actions

- Develop, test and update public health emergency preparedness and response plans, including for priority hazards.
- Strengthen public health risk and resource mapping.
- Further improve surge capacity at both national and local levels, including consideration of mobile laboratories and hospitals.

Indicators and scores

R.1.1 National multi-hazard public health emergency preparedness and response plan developed and implemented – Score 3

Strengths/best practices

- An all-hazards national prevention, response and recovery plan has been developed and has been adapted by ministries for their specific needs.
- Preparedness plans are tested through regular exercises.

Areas which need strengthening/challenges

- In some organizations, review and revisions are not conducted on an annual basis.
- Surge capacity to respond to public health emergencies is limited.
- Public health contingency plan(s) should be developed for priority hazards, and the exercises be conducted accordingly.

R.1.2 Priority public health risks and resources mapped and utilized – Score 2

Strengths/best practices

- Pre-event risk assessments are conducted for all hazards by NEMA and responsible ministries conduct more detailed risk and response mapping.
- The Law on State Resources (2007) regulates the mobilization of resources, storage, transportation, disposal and financing during emergencies, and each organization has their own resources for preparedness.

Areas which need strengthening/challenges

- The national profile on risks and resources is not reviewed on an annual basis.
- Logistics, local stockpiling, experts and funding mapping needs to be strengthened.
- NEMA: Reports from national disaster preparedness trainings
- NEMA: Disaster Research Institute Annual Reports

Emergency response operations

Introduction

A public health emergency operations centre is a central location for coordinating operational information and resources for strategic management of public health emergencies and emergency exercises. Emergency operations centres 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

Country with public health emergency operations centre (EOC) functioning according to minimum common standards; maintaining trained, functioning, multisectoral rapid response teams and "real-time" biosurveillance laboratory networks and information systems; as well as trained EOC staff capable of activating a coordinated emergency response within 120 minutes of the identification of a public health emergency.

Mongolia level of capabilities

Since 2014, an EOC has been located within the MOH with full-time staff and part-time backup staff, necessary infrastructure/equipment, internet connection and the ability to connect to videoconferencing. There are also EOC branches named Emergency Operation Points (EOPs) at NCCD, NCZD, the National Public Health Centre and selected provinces, which are connected for weekly meetings.

The MOH EOC operates under two regulations. It is functional during 'peace-time' for daily surveillance meetings, preparedness planning and conducting risk assessments and during the public health emergencies, governed by IMS principles in an activated EOC.

The MOH EOC is mandated to regularly exchange information with NEMA, VABA, GASI and the Poisons Centre of the Ministry of Defence according to its TOR. During outbreak responses, there may be daily reporting through this shared teleconferencing. NCCD, NCZD and VABA have email and hotline numbers for the reporting of outbreaks and unknown diseases of human and animal origin as part of their EBS systems. Events managed by the MOH EOC include cases of mercury poisoning and the measles outbreak in 2015.

The NCCD EOP was launched in December 2015. It is recognized as the primary place for coordination of surveillance, joint risk assessment, risk communication and response functions. This EOP conducts daily coordinated risk assessment of new and ongoing events. Daily updates are shared with MOH and other relevant sectors by email. Reports from all surveillance systems from all sectors are routinely shared at the inter-sectoral weekly surveillance meeting through the EOC and EOPs. A weekly electronic newsletter is distributed to all levels of multisectoral staff, decision-makers and parliamentarians, such as local NCZD branches, MOH, MOFALI, WHO, FAO and other partners. This contributes to the evidence-base for risk assessment to allow rapid decision making.

Emergency response activities at the subnational level are led by local Emergency Management Authorities. A multisectoral EOP team in aimags conducts routine risk assessment of events. The risk level guides actions to be taken including activation of EOP and EOC and communication messages. Every province has a multisectoral RRT. EOP teams in aimags provide the aimag-level emergency committee with technical recommendations.

If a reported event has serious potential public health impact and requires an intersectoral response, NEMA coordinates response activities and uses the IMS. NEMA has Emergency Management Divisions in all 21 provinces and the capital city and is authorized to engage MOFALI, GASI, MOH, NCCD and NCZD at the national level, as required.

The MOH EOC operates under two regulations approved by the Order of Health Minister No. 355 in 2015: Operational guideline of emergency operating centre of the MOH during peacetime; and Regulation on Incident Management System during public health emergency; both of them include the procedures for EOC operation and decision making.

During peacetime, the MOH prepares a daily report that is distributed to multiple sectors including NEMA, GASI and MOFALI. Daily communication between the MOH EOC and the EOC branches also occurs, and there is a weekly teleconference connecting the MOH EOC with EOC branches at NCCD, NCZD and NPHC to share situation updates on events, conduct joint risk assessments and to guide actions. During a public health emergency, the daily reports continue, but are focused on the emergency. Risk communications are also utilized during public health emergencies (see Risk Communications chapter). Between 2010 and 2016 there have been 26 training exercises conducted by MOH on emergency response. This includes comprehensive training in most provinces and a preparedness inspection in one province.

There are national standards for 64 communicable diseases which includes clinical guidelines and the minimum requirements for case management. The standards contain guidance on how to transport potentially infectious patients to healthcare facilities and are distributed to health facilities at every level. Infectious disease specialists at the secondary and tertiary levels are appropriately trained in case management of IHR-related communicable diseases. A transport referral mechanism also exists at the points of entry (PoE) to transport ill individuals to a healthcare facility.

Recommendations for priority actions

- Strengthen the development, dissemination and use of case management guidelines for response to biological, radiation and chemical hazards.
- Sustain improvement of emergency response operations, including revising the SOP, based on findings from exercises and after-action reviews.
- Improve links between EOC and /EOPs within the health sector, other sectors and local levels.
- Encourage professional team-building for emergency response, such as to further enhance the emergency medical teams or rapid response teams, through training and exercises.

Indicators and scores

R.2.1 Capacity to activate emergency operations – Score 3

Strengths/best practices

- There is a regulatory framework in the MOH, which details EOC activation at different levels, including when to activate, roles and responsibilities, and procedures.
- There is an IMS framework, with functions for an event coordinator, event manager, and planning, epidemiology, rapid response, risk communications and logistics teams.

Areas which need strengthening/challenges

- Evaluating current capacities and preparedness planning for large-scale disasters requires strengthening.

R.2.2 EOC operating procedures and plans – Score 3

Strengths/best practices

- EOC operating procedures are in place, and updated following events.
- Operational guidelines for the MOH EOC exist during peacetime and during public health emergencies, including for information sharing.
- During a national public health emergency, a mechanism exists to assign an incident manager for the EOC.
- A contact list of partners exists and is updated quarterly.

Areas which need strengthening/challenges

- Coordination between EOCs outside the health sector needs improvement

R.2.3 Emergency operations programme – Score 3

Strengths/best practices

- Exercises are conducted regularly to test the functionality of MOH EOC and EOPs at both local and national levels.

Areas which need strengthening/challenges

- The chain of command and scientific-based risk assessments for decision making require improvement.

R.2.4 Case management procedures implemented for IHR relevant hazards – Score 3

Strengths/best practices

- Standards for communicable diseases exist, which include guidance on case management.
- Case management guidelines for chemicals and radiations are also in place.
- Guidelines on transport of potentially infectious patients exist at the local level and PoEs.

Areas which need strengthening/challenges

- Case management guidelines for chemical events and radiation emergencies need improvement.

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

Country conducts a rapid, multisectoral response in case of a biological event of suspected or confirmed deliberate origin, including the capacity to link public health and law enforcement, and to provide and/or request effective and timely international assistance, such as to investigate alleged use events.

Mongolia level of capabilities

Mongolia has a National Security Council which functions as an intersectoral coordinating and information sharing body. Individual ministries are required to submit periodic reports to the National Security Council. Although there are examples of some reports being shared cross-sectorally as they are submitted to the National Security Council, most information flows back out to other ministries only as directed by the National Security Council. There are provisions for rapid sharing of information between sectors, but these are only as timely as the decisions being made on the basis of individual sector risk assessment determinations, not by pre-determined lists of critical information requirements that would trigger immediate sharing of information. A proposed inter-sectoral information sharing regulation has been drafted to strengthen this information sharing capacity.

Recommendations for priority actions

- Formalize the draft regulation on routine inter-sectoral information sharing, with inclusion of criteria to trigger immediate emergency sharing.
- Establish SOPs for rapid joint risk assessment and response initiation for deliberate biological events.
- Conduct joint training and exercises between public health and law enforcement / security sectors.

Indicators and scores

R.3.1 Public health and security authorities (e.g. law enforcement, border control, customs) linked during a suspect or confirmed biological event – Score 3

Strengths/best practices

- The necessary legal framework for rapid sharing of emergency information between sectors exists.
- NEMA maintains a roster of sector focal points and conduct drills to validate this roster monthly to ensure the contact information is current.
- Some reports are shared between sectoral EOCs outside the normal cycle of routine reports required by the National Security Council.

Areas which need strengthening/challenges

- Existing inter-sectoral information sharing processes lack criteria/triggers for immediate sharing of information related to deliberate biological events.

- All non-routine information sharing is driven by sector-specific risk assessments.
- Although individual SOPs for sector-specific risk assessments exist, there are no SOPs for rapid joint risk assessment and response initiation.
- Although there have been some multi-sectoral exercises conducted in the past, there are no routine exercises conducted jointly between the public health and law enforcement/security sectors, specifically for deliberate biological events.

Medical countermeasures and personnel deployment

Introduction

Medical countermeasures are vital to national security, protecting nations from potentially catastrophic infectious disease threats. Investments in medical countermeasures create opportunities to improve overall public health. In addition, it is important to have trained personnel who can be deployed to respond to a public health emergency.

Target

National framework for transferring (sending and receiving) medical countermeasures, and public health and medical personnel from international partners during public health emergencies.

Mongolia level of capabilities

Mongolia operates most of its responses under the overarching guidance provided in the NEMA Disaster Management Plan, with Ministries being responsible for their own sector-specific disaster management plans.

Multiple stocks of medical countermeasures (MCM) exist and are maintained by various health units within the government. A contract is in place with pharmacies to have available adequate quantities of pharmaceuticals that are on a government-generated list. These various MCM stocks have been independently created in the absence of an integrated national public health emergency operations plan based on assessed national risks. There is no shelf-life extension programme in place, and there is no plan to address potential future fiscal liabilities (in terms of replacement and disposal costs) for these various MOH units.

The MOH Health Disaster Plan includes provisions for funding of deployment activities within Mongolia, and a roster is maintained of personnel available for surge staffing. However, personnel deployment processes do not thoroughly consider licensing and liability issues, especially for international deployments.

Recommendations for priority actions

- Develop clear authorities to provide surge staffing to meet public health needs during disasters and public health emergencies, along with an implementing SOP for deployments (both domestically and internationally), which defines triggers for surge staffing usage, and also addresses licensing/liability issues, medical readiness clearance of personnel, and use of the Global Outbreak Alert and Response Network (GOARN) mechanism.
- Incorporate and execute MCM and personnel deployment elements within an integrated national exercise programme.
- To achieve economies of scale and focus investments on risk-based threat priorities, consolidate MCM stockpiles under a centrally managed government programme, which also coordinates with the private sector for management of vendor-managed stocks.

Indicators and scores

R.4.1 System in place for sending and receiving medical countermeasures during a public health emergency – Score 2

Strengths/best practices

- The overall NEMA preparedness plan provides an adequate generic basis for response logistics operations within the nation.
- The Law of Mongolia on Medicines and Medical Devices links medicine availability to national security, and further specifies that "The central state administrative body in charge of health matters may have a reserve storehouse suitable for storing medicines and medical devices to be used in emergency and public health care and services." Both the health and agricultural ministries have the authority under this law to regulate importation of medicines in an emergency.
- The MOH has plans and orders in place for MCM logistics and the management of donated supplies.
- NEMA handles donated MCM through a medical import/export warehouse.
- NEMA state reserves of supporting materiel are adequate for one month's operations.
- Both NCCD and NCZD have stockpiles in place at the national level, consisting mostly of vaccines; these stocks are intended for one year's operation.
- Individual health facilities maintain their own stocks as needed. Exercises have been held testing distribution of stockpiled material.

Areas which need strengthening/challenges

- Mongolia is currently not a signatory to any international stockpile sharing agreements.
- Existing MCM stocks are not managed in a centralized manner.
- The stockpile estimations are not based on a strategic national risk assessment and there is no shelf-life extension programme.
- Although there is a general Government Reserve Fund that has been proposed to support the health sector during outbreaks, there currently is no standing fund to maintain such stockpiles.

R.4.2 System in place for sending and receiving health personnel during a public health emergency – Score 2

Strengths/best practices

- Approximately 300 retired medical personnel and medical students are available to support surge operations
- The MOH maintains rosters of these personnel for possible deployment.
- A Memorandum of Understanding is in place between the MOH and the Ministry of Defence (MOD) on collaboration during public health emergencies, which includes provisions for exchange of personnel.

Areas which need strengthening/challenges

- There is currently no system to regulate surge staffing, either domestically or internationally.
- Deployments are made in an ad hoc manner
- There is no staff clearance process in place to ensure that the right personnel with the right skills, the right training, the right experience, the right medical clearance, the right tools and the right travel authorizations are selected to meet mission needs.

- There is no uniform regulatory mechanism for managing incoming foreign surge staffing. Some professional specialties are currently eligible for a waiver, while others are required to stand for an exam in order to be issued a license to practice within Mongolia. Liability issues and insurance issues are also unclear for foreign medical and public health personnel deploying to Mongolia.
- Although there is evidence of local level exercises requiring simulated deployment of staff within their jurisdiction, no exercises have been conducted at the national level for large scale shifting of staffing to a disaster area, or requesting needed medical and public health personnel from other countries.
- GOARN is not a deployment mechanism planned for use in Mongolia.

Risk communication

Introduction

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

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 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 should be tested and updated as needed.

Target

State Parties use multilevel and multifaceted risk communication capacity. Real-time exchange of information, advice and opinions between experts and officials or people who face a threat or hazard (health or economic or social wellbeing) to their survival, so that informed decisions can be made to mitigate the effects of the threat or hazard and protective and preventive action can be taken. This includes a mix of communication and engagement strategies, such as media and social media communications, mass awareness campaigns, health promotion, social mobilization, stakeholder engagement and community engagement.

Mongolia level of capabilities

Mongolia has been developing its risk communication capacity over recent years, building on lessons learned from experience and regular simulation exercises. Capacity now exists across all criteria for mounting an effective risk communication response to emerging infectious disease outbreaks and public health emergencies.

Risk communication systems are established. Laws, regulations and guidelines set out roles and responsibilities for implementing risk communication in emergencies. Human resources are in place across the national, sub-national and local government levels, though their abilities vary and surge capacity is limited.

Internal and partner communication and coordination in outbreaks and emergencies have faced challenges, but work reasonably well within the health sector. However, this capacity is not as strong with partners in non-health sectors, including at-risk and affected communities.

Mongolia uses several public communications channels during outbreaks and emergencies, including traditional media, social media, online content and a free public telephone hotline. However, these activities are not guided by research and there is limited evidence available on audience information needs, trusted sources and communication channel preferences.

Mongolia engages affected communities mostly through the health system, using patient and care-giver surveys to better understand information needs and guide planning. Broader engagement with non-health sector stakeholders and community organizations is done, but in a more ad hoc manner.

Traditional and social media sources, public telephone hotline and email enquiry account are used to monitor for misinformation, unsubstantiated rumours and indications of public perception during outbreaks and emergencies. Errors, misinformation, and information gaps are addressed when possible, but largely in an ad hoc manner and the effectiveness of these interventions is not assessed.

Risk communication activities in general are not evaluated for effectiveness in reaching their intended audiences, or achieving the desired behavioural changes in a consistent and systematic way.

Recommendations for priority actions

- Invest in risk communication with increased, dedicated and ongoing funding to support the following recommendations and the continued growth in this capacity.
- Strengthen the evidence-base used to guide risk communication by establishing an ongoing research plan that includes:
 - a comprehensive audience analysis to better understand the information needs and the preferred channels of the many communities in Mongolia;
 - a media study of communications channels to better understand which communities they reach during emergencies and which ones are missed;
 - a systematic approach to monitor and evaluate the effectiveness of risk communication activities among the public and affected communities following outbreaks and events; and
 - a budget for testing risk communication plans and materials with the public and affected communities in advance of emergencies.
- Increase the number and quality of risk communication human resources by establishing an expanded ongoing training plan to address the challenge left by frequent job turn-over, to increase the number of spokespersons, and to build more skills in community engagement.
- Strengthen multi-sectoral coordination by establishing a risk communication network, that includes the health, non-health and community sectors, with a mandate to:
 - Promote integration among the risk communication, press office, health promotion and community engagement functions;
 - Coordinate with non-health sectors, including organizations representing at-risk or affected communities;
 - Collaborate on developing risk communication plans and messages in advance of outbreaks and emergencies; and
 - Test collaboration across all sectors regularly through exercises.

Indicators and scores

R.5.1 Risk communication systems (plans, mechanisms, etc.) – Score 3

Strengths/best practices

- Laws and regulations are in place that establish the requirement for risk communication as part of an emergency response for public health outbreaks and disasters.
- There is a dedicated risk communication officer and risk communication team, with representatives from all sectors and levels of government that engage in outbreaks and emergencies.

- Three trained spokespeople and press officers are available during responses and health promotion staff are in place in all centres.
- Regular exercises are held to test capacity and produce lessons learned.

Areas which need strengthening/challenges

- There is no dedicated ongoing funding for risk communication, which prevents proactive work in the area and limits capacity growth.
- Frequent staff changes leave an ongoing demand for surge capacity training across all skill-sets, including risk communication, community engagement and media spokesperson techniques.

R.5.2 Internal and partner communication and coordination – Score 3

Strengths/best practices

- There are detailed risk communication guidelines for infectious disease outbreaks that outline roles and responsibilities across sectors.
- The implementation of IMS with regular exercises that test risk communication offer valuable lessons in improving capacity.
- In emergencies, the risk communication team shares messages across sectors and levels of government.

Areas which need strengthening/challenges

- Staff supporting risk communication, including media spokespersons, press officers, health promotion officers, and community engagement personnel, are spread across three different organizations. This demands strong internal coordination.
- Coordination needs to be improved with non-health sectors, including community organizations, private sector, and others.

R.5.3 Public communication – Score 3

Strengths/best practices

- There is good media relations capacity with dedicated press officers, designated spokespersons, contracts with media outlets across all formats (radio, TV, print, online) to disseminate health messages in emergencies, and a 'health journalists club' for proactive engagement.
- Social media is systematically used and to shares press releases, health messages, infographics and videos.
- Mobile phone SMS text messaging has been used to disseminate health messages, an important tactic to reach audiences who otherwise do not have access to electronic media sources.

Areas which need strengthening/challenges

- There is limited information available on the information needs, trusted sources and preferred channels of Mongolian communities.
- There is limited data on the currently used communication channels and which audiences they tend to reach effectively.

R.5.4 Communication engagement with affected communities – Score 3

Strengths/best practices

- There is community engagement capacity among the health promotion staff in each health sector centre with the potential for further growth.

- A free telephone hotline and an email address are used in emergencies to field questions from the public, including affected communities, correct errors and misconceptions, and inform communication plans and messages.
- Patient and care-giver surveys are used in hospitals and health centres to better understand information needs and concerns.
- There is a channel via medical care division to disseminate health messages to patients through hospitals and healthcare centres at all levels.

Areas which need strengthening/challenges

- No formalized mechanism exists for coordinating with the community sector, particularly organizations representing at-risk or affected populations.
- Community engagement currently focuses more on delivering information than on building relationships in which risk communications plans and messages for affected communities are developed together.
- Community engagement activities need to be coordinated with public communications activities to ensure consistent messages and complementary approaches.
- Additional training to build risk communications and community engagement skills would benefit health promotion staff, field epidemiologists, and first responders.
- Community engagement activities should be evaluated to determine if these messages were understood by the affected communities and if these messages resulted in the desired behavioural change.

R.5.5 Dynamic listening and rumour management – Score 3

Strengths/best practices

- Traditional media coverage and social media conversations are monitored daily during emergencies, and factual errors, rumours and misconceptions related to public risk perception are addressed when possible with press releases, social media replies, or web updates.
- A free telephone hotline and an email address are used in emergencies to field questions from the public, including affected communities, correct errors and misconceptions, and inform communication plans and messages.

Areas which need strengthening/challenges

- The effectiveness of risk communications activities, including those aimed at correcting misinformation, managing rumours and addressing risk perception, is not measured systematically.

OTHER IHR-RELATED HAZARDS AND POINTS OF ENTRY

Points of entry (PoE)

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

Target

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

Mongolia level of capabilities

Mongolia shares land borders with the People's Republic of China and the Russian Federation. Mongolia has focused on capacity building at the highest risk border entry points and has three designated points of entry: Buyant-Ukhaa (Chinggis Khaan international airport), Zamiin-Uud (railway and motorway) ground crossing and Sukhbaatar (railway) ground crossing. There are a further 24 non-designated ground crossings, of which 16 operate year-round. These non-designated ground crossings are smaller, have limited resources, and do not currently meet all the core capacities for designation.

The three designated points of entry generally meet the core capacities in Annex 1(b) of the IHR (2005). A new international airport is due to replace Buyant-Ukhaa in May 2018. Mongolian authorities hope this new airport will be certified by the WHO.

Incremental improvements are being made to improve core capacities at points of entry, such as building further quarantine, isolation, sterilization and disinfection facilities, improving laboratory capacity, and connecting border crossings to an electronic network. These improvements should enable the designated points of entry to demonstrate capacity. Mongolia may then wish to consider upgrading non-designated points of entry. Informal border crossings, including by rivers, will remain a challenge to the effective management of public health risks at the border.

Recommendations for priority actions

- Collaboration and cooperation between border and other agencies and stakeholders, and with neighbouring countries, including through regular exercises and shared training opportunities, and improved information flows should be maintained and further improved.
- The capacity of staff at points of entry should be maintained and further improved, in relation to the provision of appropriate personal protective equipment (PPE), ability to conduct rapid diagnostic tests, and provision of training in epidemiology, rapid risk assessment, risk communication and rapid

responses – such as through the MFETP.

- Planned improvements at points of entry should be implemented, particularly those that are some distance from healthcare facilities, including improved quarantine, sterilisation, disinfection, and laboratory facilities, the more effective use of ICT, and regular internal assessments of IHR capacities at points of entry to monitor progress.

Indicators and scores

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

Strengths/best practices

- There is close collaboration and coordination among the relevant agencies and sectors, and close cooperation with the People's Republic of China and the Russian Federation.
- The routine core capacities have been achieved (including the capacity to manage ill travellers).
- A stable workforce of competent inspectors exists.

Areas which need strengthening/challenges

- Maintain and enhance staff capacity.
- Maintain and improve the ready availability of equipment and consumable supplies.
- Better utilise ICT platforms.

PoE.2 Effective public health response at points of entry – Score 3

Strengths/best practices

- Public health emergency contingency plans are in place at points of entry.
- There are strong and streamlined regulatory frameworks in place, with the potential for their use as exit measures.
- Arrangements are in place for the detection, isolation, transport and treatment of ill travellers.

Areas which need strengthening/challenges

- Implementation of planned infrastructure improvements, including to quarantine, isolation, sterilisation and disinfection facilities and to laboratory capacity needs to continue.
- The capacity of inspectors working at points of entry, for example through the provision of appropriate PPE, rapid diagnostic testing capacity, and additional training should be strengthened.
- ICT platforms need to be better utilised.

Chemical events

Introduction

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

Target

States Parties with surveillance and response capacity for chemical risks or events. This requires effective communication and collaboration among the sectors responsible for chemical safety, industries, transportation and safe disposal.

Mongolia level of capabilities

Mongolia has a strong base of legislation, orders, and regulations addressing chemicals, including control of transportation and storage of such materials. Under Mongolia's Law on Disaster Protection (2017), which serves as its core national response plan, chemical events are explicitly included under the law's broad definition of disasters. Responsibilities are further defined in the National Disaster Protection Plan. Specific chemicals are prohibited and restricted. A national council for chemical policy implementation was created within the Prime Minister's cabinet, with representation of all Ministries by their State Secretaries, but this body was dissolved in 2016.

EBS is capable of detecting acute chemical events, but specific surveillance activities targeting chemical threats are scattered and not centrally coordinated. Routine reporting of chemical monitoring exists, but the frequency is not adequate to support timely situational awareness of emerging chemical threats. Procedures exist for reporting of acute events outside this schedule, but such reporting is generally triggered by professional judgement of the need to share information across sectors.

Risk assessment is done by committee, and response coordination is the responsibility of NEMA. However, NEMA is dependent on multiple stakeholders to provide response assets. Laboratory surge and exposure treatment capacity is limited.

Recommendations for priority actions

- Develop integrated multisectoral chemical surveillance programme to include poison control, food and drug testing, and environmental monitoring.
- Develop a multisectoral chemical response framework to integrate individual sector plans, along with associated sectoral SOPs, and incorporate chemical events into a national multisectoral exercise programme to test this framework.
- Strengthen laboratory capacity at national and sub-national levels, and improve associated toxicology expertise of health sector workforce to detect and respond to priority chemical threats.

Indicators and scores

CE.1 Mechanisms established and functioning for detecting and responding to chemical events or emergencies – Score 2

Strengths/best practices

- Lead responsibilities related to the management of chemical events are assigned as follows: Mongolia's Ministry of Environment and Tourism (MET) is the designated lead for development of chemical policy; the Deputy Prime Minister's State Emergency Standing Committee is the designated lead for risk assessment; and NEMA is the designated lead for response operations for chemical events.
- GASI and the metropolitan or provincial inspection authorities directly conduct scheduled air, water, and soil sampling from residential areas.
- GASI tests for 30 chemicals in air samples from workplaces, and conducts oversight of industrial air, water, and soil testing conducted by industry. Industrial sources are required to report testing results to GASI.
- Case management guidelines for acute chemical poisonings are in place.

Areas which need strengthening/challenges

- No integrated national surveillance system exists.
- Current surveillance depends on reports of poisonings from healthcare facilities. MOH situational awareness of chemical events is limited to this source, augmented by periodic reports of testing results from other sectors received through required reporting channels.
- Laboratory capacity is limited. Current focus is on testing for lead, mercury, and cadmium.
- No national mobile laboratory capacity is available.
- Inadequate numbers of trained toxicologists are available to provide an enhanced level of analytical support and technical advice.
- Treatment capacity for acute chemical poisoning is limited. Cases are referred to a central military hospital that provides this care.

CE.2 Enabling environment in place for management of chemical events – Score 3

Strengths/best practices

- The national Law on Disaster Protection (2017) includes chemical events under its definition of disasters, and national practice is to require individual Ministries to develop sector-specific plans based on their assigned responsibilities (however, exercise of these plans is limited, and there is no multisectoral exercise programme in place).
- The MET manages a database of all mines, chemical manufacturing sites, and academic institutions using chemicals, and there have been census efforts in the past to catalogue chemicals in the country.
- GASI conducts oversight of industry testing, but Mongolia does not participate in any international chemical networks.

Areas which need strengthening/challenges

- There is no integrated national chemical contingency plan (just the generic disaster response plan and sector-specific plans).
- There are no implementing SOPs to guide individual sector activities in executing their assigned responsibilities and planned response strategies.
- Intersectoral coordination for response to chemical events is theoretically managed by NEMA, but this has not been demonstrated.

Radiation emergencies

Introduction

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

Target

States Parties with surveillance and response capacity for radiological and nuclear hazards/events/emergencies. This requires effective communication and collaboration among the sectors responsible for radiological and nuclear emergency management.

Mongolia level of capabilities

Mongolia has a strong base of legislation, orders, regulations, and standards addressing radiation safety and response. Under Mongolia's Law on Disaster Protection (2017), which serves as its core national response plan, radiation events are explicitly included under the law's broad definition of disasters. Responsibilities are further defined in the National Disaster Protection Plan.

The Nuclear Energy Commission (NEC) is the primary policy and standards body and the GASI is the main regulatory enforcement body. GASI also plays a central role in radiation preparedness and response; GASI conducts three to five exercises each year with a radiation scenarios. Laboratory capacity for detection and characterization of radiation sources is located at GASI. Although access to IAEA resources is available, laboratory surge capacity is limited. There is no mobile capacity to carry out radiation measurement on site.

There has been no background public health assessment conducted for radiation threats, but a master inventory exists of radiation sources in the country. There has been an increase in the number of radiation sources within Mongolia in the last decade; the health sector and the industrial sector account for this increase.

Recommendations for priority actions

- Establish a national multisectoral radiation surveillance and response coordination system that integrates information sharing from existing radiation monitoring and laboratory sources in order to provide improved situational awareness to national radiation and health authorities.
- Incorporate radiation events into an integrated national multisectoral response training and exercise programme.
- Strengthen national radiation laboratory capacities, to include development of mobile and radiochemical analysis capabilities.
- Expand capacity for medical treatment of radiation exposures by identification of surge treatment facilities, development of risk-based treatment stockpiles, and training of surge medical personnel.

Indicators and scores

RE.1 Mechanisms established and functioning for detecting and responding to radiological and nuclear emergencies – Score 3

Strengths/best practices

- National policies and plans exist for detection, assessment, and response to radiation emergencies. Meteorological stations measure ambient dose rates three times each day.
- GASI conducts quarterly monitoring of domestic food manufacturers and water treatment plants, but only in Ulaanbaatar.
- Laboratory analyses of environmental sampling by MET are conducted by GASI.
- Monitoring data are reported to the National Security Council.
- GASI has procedures that it follows in the conduct of risk assessments.
- Case management guidelines for radiation exposures exist.

Areas which need strengthening/challenges

- Radiation information is not routinely shared on a real-time basis with the MOH.
- MOH situational awareness is dependent on periodic aggregate reports and emergency contacts made by exception to inform the MOH of a radiation case.
- There are no SOPs to describe how response measures are to be carried out.
- There is no regulatory mechanism in place to enforce NEC resolution No. 1.
- No government agency is responsible for reviewing or exercising facility response plans.
- Treatment capacity is limited; there is one national military hospital that serves as a reference facility for treatment of radiation exposures.
- There is an oncological hospital that has been identified as a surge facility, but total bed capacity is limited.
- There are no stocks of medical materiel appropriate for large scale treatment of radiation exposures.

RE.2 Enabling environment in place for management of radiation emergencies – Score 3

Strengths/best practices

- A national radiation response plan exists, and is currently under revision.
- GASI conducts exercises with radiation scenarios three to five times each year; drills are also conducted at PoEs one to two times each year.
- There is a national “integrated notification and reporting pathway” for coordinating response; although the MOH does not appear on the list of organizations included, it is represented on the GASI commission responsible for radiation.

Areas which need strengthening/challenges

- The national focal point for coordination with the NFP is presumed by all sectors to be GASI, but this is not explicitly documented.
- The radiation source transport regulation is currently under development.

Appendix 1: JEE background

Mission place and dates

Ulaanbaatar, Mongolia; 12 to 19 May, 2017

Mission team members:

International experts

- Dr Li Ailan, WHO Regional Office for the Western Pacific
- Mr Ryan Baker, Public Safety Canada, Canada
- Ms Sally Gilbert, Ministry of Health, New Zealand
- Dr David Hadrill, Food and Agriculture Organization of the United Nations
- Dr Frank Konings, WHO Regional Office for the Western Pacific
- Dr Chin-Kei Lee, WHO China
- Mr Graham Rady, Monitoring and Evaluation Consultant, Australia
- Mr Peter Rzeszotarski, Centers for Disease Control and Prevention, USA
- Dr Barry Stemshorn, World Organisation for Animal Health nominated
- Dr Wang Wenjie, National Health and Family Planning Commission, People's Republic of China

National experts

- Dr Dolgorkhand Adyadorj, Ministry of Health, Mongolia
- Dr Ambaselmaa Amarjargal, National Center for Communicable Diseases, Mongolia
- Dr Byambatogtokh Baasankhuu, Ministry of Health, Mongolia
- Dr Delgermaa Battumur, National Center for Zoonotic Diseases, Mongolia
- Dr Urangjargal Chuluundorj, National Center for Communicable Diseases
- Dr Ganbold Dalantai, National Center for Zoonotic Diseases
- Dr Nyamkhuu Dulmaa, National Center for Communicable Diseases, Mongolia
- Dr Dorjsuren Gantsetseg, Ministry of Health, Mongolia
- Mr Enkhbaatar Gonchigluvsan, National Center for Communicable Diseases, Mongolia
- Ms Ariunsaikhan Ikhjamts, General Agency for State Inspection, Mongolia
- Dr Baigalmaa Jantsansenggee, National Center for Communicable Diseases, Mongolia
- Mr Damdinsuren Jargal, National Emergency Management Agency, Mongolia
- Dr Enkhtuya Jargalsaikhan, Institute of Veterinary Medicine, Mongolia
- Dr Gerelmaa Lkhasuren, General Agency for State Inspection, Mongolia
- Dr Dorj Narangerel, Ministry of Health, Mongolia
- Dr Tsogbadrakh Nyamdorj, National Center for Zoonotic Diseases
- Dr Dashpagma Otgonbayar, National Center for Communicable Diseases
- Mr Davaadorj Rendoo, National Center for Public Health, Mongolia
- Dr Amarzaya Sarankhuu, Ministry of Health, Mongolia
- Dr Urantsetseg Shagdar, Ministry of Health, Mongolia

- Dr Enkhzaya Sukhee, Ministry of Health, Mongolia
- Dr Enkhzaya Taznaa, Ministry of Health, Mongolia
- Dr Tumurbaatar Tegshbayar, General Agency for State Inspection, Mongolia
- Dr Odgerel Tundev, National Center for Communicable Diseases, Mongolia

Peer observer

- Dr Ni Dixin, Chinese Center for Disease Control and Prevention, People's Republic of China

WHO Technical Staff

- Ms May Chiew, WHO Regional Office for the Western Pacific
- Ms Qiu Yi Khut, WHO Regional Office for the Western Pacific
- Dr Ariuntuya Ochirpurev, WHO Mongolia

Objective

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

The JEE process

The JEE process is a peer-to-peer review. The entire external evaluation, including discussions around the scores, the strengths, the areas that need strengthening, best practices, challenges and the priority actions should be collaborative, with JEE 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 JEE 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

Mongolia voluntarily requested a JEE as part of their commitment to achieving IHR (2005) core capacities. In February 2017, Mongolia conducted a self-evaluation using the JEE tool. The report of this self-evaluation and supporting documentation were shared with the JEE team prior to the mission.

The mission began on 12 May 2017 with a briefing between the Minister of Health Dr. Tsogtsetseg and international experts of the JEE team followed by informal side meetings between government ministries and international experts.

Between 16 and 18 May 2017, national and international experts jointly reviewed national capacities in the 19 technical areas of the JEE tool. Field visits to emergency operations points, surveillance departments and laboratories (NCCD, NCZD and IVM), Chinggis Khaan International Airport, Border Inspection Agency, and a local level health department and family health centre provided opportunity for more in-depth discussions and verification of capacities.

The mission concluded with: a joint review of JEE scores; discussion of the integration of findings and recommended priority actions into national planning; and a JEE team debriefing to discuss lessons learned from the process as a whole. The results of the assessment and observations of Mongolia's preparedness and response capacities were presented to the Deputy Prime Minister's Advisor on Emergencies, Ms. Sayanaa; the Vice Minister of Health, Dr. Byambasuren; and stakeholders from other ministries and agencies in Ulaanbaatar, Mongolia on 19 May 2017.

Limitations and assumptions

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

Key host country participants and institutions

Participating institutions:

- Ministry of Health, Mongolia
- National Center for Communicable Disease (NCCD) , Mongolia
- National Center for Zoonotic Diseases, Mongolia
- National Center for Public Health, Mongolia
- Ministry of Food, Agriculture and Light Industry, Mongolia
- General Agency for State Inspection , Mongolia
- National Emergency Management Agency , Mongolia
- Mongolian Agency for Standard and Measurement, Mongolia
- Ministry of Environment and Tourism, Mongolia
- Mongolian Agency for Standard and Measurement, Mongolia
- Ministry of Defence, Mongolia
- Zavkhan, Selenge, Dornogobi and Khuvsgul province health, veterinary, inspection and emergency management agencies

Partner observers:

- Asian Development Bank (ADB)
- Food and Agricultural Organization of the United Nations (FAO)
- NIH Grant D43, One Health Innovation Fellowships for Zoonotic Disease Research in Mongolia
- United Nations Children's Fund (UNICEF)
- United States Agency for International Development (USAID)
- US Embassy
- Swiss Development Cooperation
- World Health Organization (WHO)

Supporting documentation provided by host country

General documents

- National Emerging Infectious Diseases & Public Health Emergencies Work Plan, 2012-2015, Mongolia
- Report of IHR multisectoral planning and review meeting, 2016
- Mongolia Country Profile

National legislation, policy and financing

- Law on Disaster Protection (revised 2017)
- Law on Health (revised 2012)
- Law on Government Special Funds (revised 2015)
- Law on Food (2012), the Law on Food Safety (2013)
- Law on Animal and Livestock Health (new revised Draft submitted to Parliament in 2017)
- Nuclear Energy Law (2009)
- Law on Standardization and Accordance Evaluation (2003)
- State Policy on Health 2016-2020, No.24, 2017
- National Program on Communicable Disease Prevention and Control, No.11, 2017
- Formal mechanism for the assessment of the implementation of legal acts, No.322, 2013
- Resolution of Nuclear Energy Commission, i.e., Radiation Safety Norms No. 6, 2015, and Basic Regulation on Radiation Protection and Safety No. 1, 2016
- National IHR Focal Point [NCCD], IHR Coordinating Committee and Technical Advisory Teams, No.151, 2010
- Regulation on Communicable Disease Early Warning, Response and Surveillance, No.152, 2010
- Regulation on Surveillance and Control of Foodborne Diseases, 185 of 2008
- Law on Standardization and Accordance Evaluation (2003)
- Formal mechanism for the assessment of the implementation of legal acts, No.322, 2013

IHR (2005) coordination, communication and advocacy

- Minister of Health Order No.151, 22 April 2011 "Approval of Guidelines and SOPs"
- Law on Disaster Protection (revised 2017)
- Order of the Deputy Prime Minister of Mongolia and Chairman of the Standing Council
- Joint Order of the Minister of Health and Minister of Industry and Agriculture, 8 February 2010
- Minister of Health and Minister of Industry and Agriculture's joint order: Expansion of Intersectoral Coordination Committee, 21 November 2013
- Joint Order of the Minister of Health and Minister of Industry and Agriculture: Scaling-up Activities of Intersectoral Committee, 21 November 2013
- Order of the Minister of Health No.355: Regulation on IMS During Public Health Emergency
- IHR Exercise Crystal Report 2011, 2013, 2015
- Preliminary Results of EWAR Assessment, 2016
- APSED Evaluation Case Study: Mongolia, 2015
- Outbreak Review: Measures Outbreak in Mongolia, 2015
- Outbreak Review: Plague, 2015
- Outbreak Review: Foodborne Disease, 2015
- IHR Monitoring Questionnaire, 2011, 2013, 2014, 2015
- Note from IHR Multisector Planning and Review Meeting, 2016

Antimicrobial resistance

- Order of Health Minister No. 186 of 2014: Approval of Regulations
- Order of Health Minister No. 187 of 2014: Approval of Instructions on IPC
- National Program on Communicable Disease Prevention and Control (2017-2021), Resolution No. 11 (2017)
- Order of Health Minister No. 436 of 2011: National Strategy on Strengthening IPC System in Healthcare Facilities
- Report of the Pilot Project on Active Surveillance for HAIs (2017)
- Intersectoral working group to develop Multi-sectoral Plan for AMR Prevention, Order No. A/47 (2017)
- Evaluation report on the implementation of the Health Minister's Order No. 186 and 187 of 2014
- Mid-term Review of the National Strategy on Infection Control and Prevention in Healthcare Facilities (2014)
- Resolution No. 57: State Policy on Medicines (2014-2018)
- Order of Health Minister No. 336: Regulation on Medicinal Treatment Coordination Committee (2014)
- Order of Health Minister No. 448 of 2013: Strategy on Prudent Use of Antibiotics and Prevention of AMR (2013-2017)
- Order of Health Minister No. 13: Regulation on Registration of Medicines and Medicinal Raw Materials (2015)
- Report on the implementation of National Action Plan on IPC (2012-2014)
- Review of AMR surveillance in Mongolia

Zoonotic disease

- Joint activities in human and veterinary sector during zoonotic disease. Joint Order No.147: MOH/ MOFA 2012.
- Joint Order of the Minister of Health and the Minister of Industry and Agriculture No. 439/A-148. November 21, 2013.
- Report Of The Veterinary Legislation Identification Mission Mongolia (29th October to 2 November, 2012). World Organization for Animal Health (OIE).
- One Health in Mongolia. Zayat Batsukh et al. Current Topics in Microbiology and Immunology 366: 123-137, 2013.
- The control of neglected zoonotic diseases. A route to poverty alleviation. Report of a Joint WHO/DFID-AHP Meeting with the participation of FAO and OIE. Geneva, 20 and 21 September 2005.
- National Anthrax Prevention and Control Strategy 2013-2017. Undated.
- National Strategy on Prevention and Control for Echinococcosis in Human. Mongolia 2014-2017. Ministry of Health, 2016.
- External Evaluation of Brucellosis Control Programme and Vaccination Campaign. OIE Mission To Mongolia, 17-24 May 2016. World Organization for Animal Health (OIE).
- Representative Seroprevalences of Human and Livestock Brucellosis in Two Mongolian Provinces. Baljinnyam Zolzaya et al. EcoHealth 11, 356–371, 2014.
- Seroprevalence survey of brucellosis among rural people in Mongolia. Selenge Tsedn et al. WPSAR Vol 5, No 3, 2014.

Food Safety

- Cross sector strategy on ensuring food security (2016-2021). Approved by the National Council on Food Security, November 3, 2015.
- Food Law. 20 December, 2012. Effective March 1, 2013. Unofficial translation.
- Law of Mongolia on Ensuring Safety of Food Products. Effective January 1, 2014. Unofficial translation.
- Order of the Minister of Health No. 185 of 2008. Surveillance and control of foodborne diseases.
- Draft Report on Assessment of food control management systems in Mongolia. FAO Regional Office for Asia and the Pacific, January 2017.
- Review of Food Safety and Quality Legislation. Mission report to the WHO Office in Mongolia, 2015.
- Findings of a retrospective assessment of the response to outbreaks of food-borne infection, NCCD, 2016.
- Foodborne Disease Outbreak Review, Mongolia, 2014. Mongolian Society of Field Epidemiologists, 2015.

Biosafety and Biosecurity

- Laboratory biosafety procedure manual, MOH, WHO, NCCD, 2010
- Manual of Veterinary Laboratory Safety Procedures, State Central Veterinary Laboratory (SVCL)
- Biosafety assessment report, MOH, Asia Development Bank, 2015

Immunization

- National programme on the prevention and control of communicable diseases 2016-2020 (summary)
- Effective vaccine management assessment: Findings and recommendations of the assessment team. Assessment report 2015
- Measles Outbreak in Mongolia 2015 - Analysis and Lessons Learned (PowerPoint)
- Measles Outbreak in Mongolia 2015: WHO-CDC Joint Investigation - Conclusions and recommendations

National Laboratory System

- Decision No. 425: Regarding to strategic planning of developing service and assistance of health laboratories from 2010 to 2015, MOH, 2010
- Decision No. 70: Regulations of Biohazardous shipping, transportation of bio-preparations, MRRT, 2006
- Decision No. A/67 Veterinary specimen collection, transportation procedures, MOFALI, 2010
- Strategy 2010 – 2015: NCCD 5 years plan, MOH, NCCD, 2010
- Medical laboratories - Requirements for quality and competence, MNS ISO/IEC 15189:2015, ISO/MASM, 2012/2015
- Performance of Veterinary Services laboratory mission report, OIE, 2015

Real Time Surveillance

- Health Minister Order No. A69: Standard operating procedure of emergency operation unit (NCZD)
- Assessment of communicable disease information system: Report and Presentation

- Preliminary result of early warning and response surveillance system assessment (PowerPoint)
- Review of policies and legally-binding documents on early warning, response and preparedness
- Order: Working group to develop draft regulation for information exchange during potential disasters and public health emergencies

Reporting

- Approval of guidelines and SOPs for implementation of IHR (2005) and APSED
- IHR NFP evaluation of functionality, assessment report
- Order of the Health Minister No. A69: Standard operating procedure of emergency operation unit (NCZD)

Workforce development

- MFETP Strategic Plan 2016-2018 - DRAFT
- Joint programme assessment of the field epidemiology training in Mongolia
- MFETP Orientation Manual for Trainees
- Government Resolution No.24: State Policy on Health (2017-2026)
- Health Ministerial Order No. 168: Career development model and career pathway of health professionals
- Health Ministerial Order No. 443. Approval of health sector human resources development policy
- Report on Mongolia Field Epidemiology Training: Veterinary Component.

Preparedness

- Law on Disaster Protection, 2017
- Government Resolution No. 416: Plan of Action on Protection from Disaster and Rescue of Life, Property and Livestock, and Disaster Damage Elimination, 2015
- MOH Health Ministerial Order No. A/43: TOR and Composition of Disaster Protection Health Command Centre, 2017
- Law on State Resources, 2007
- Law on Special Government Funds, 2017
- Government Resolution No. 339: Regulation on Emergency Notification, 2011
- Government Resolution No. 340: Emergency Mobilization and Evacuation Plan, 2011
- MOH, NEMA, NCCD: Other preparedness plans
- NEMA: Reports from national disaster preparedness trainings
- NEMA: Disaster Research Institute Annual Reports

Emergency Response Operations

- Health Ministerial Order No. 355: Operational guideline of emergency operating centre of the MOH during peacetime and Regulation on Incident Management System during public health emergency. 2015
- MOH Weekly Surveillance Report. 2017
- NCCD: National standards, clinical guidelines and the minimum requirements for treatment for 64 communicable diseases

- Reports on exercises for emergency response
- NCCD: Emergency operations centre procedures. 2016

Linking public health and security authorities

- 1992 Law of Mongolia on National Security Council
- 2001 Law on National Security
- 2011 Law on Health
- 2017 Law on Disaster Protection
- 2010 Regulation on the Provision of Information to the National Security Council (Decree No 266)

Medical countermeasures and personnel deployment

- 2010 Law of Mongolia on Medicines and Medical Devices.
- Draft Law on Government Special Funds
- Ministry of Health and Ministry of Defence Memorandum of Understanding on collaboration
- MOH Health Disaster Plan
- MOH Order on Management of Donated Supplies

Risk communication

- Disaster Notification Regulation, 2015
- Regulation on IMS During Public Health Emergency No. 355, 2015
- Order of Health Minister No. 358 – Guidelines for Risk Communication during infectious disease outbreaks, 2011
- National Program for Communicable Disease Prevention and Control, 2017
- Lessons and Success in Establishing Functional Risk Communication Systems in Mongolia, 2016
- Draft Regulation on Information Exchange Between Sectors and Rapid Response During Potential Disasters and Public Health Emergencies, 2017
- Draft Risk Communication Capacity Assessment, 2016

Points of Entry

- Law on Disaster Protection (2017) – selected provisions
- Public health emergency contingency plan - Buyant-Ukhaa Port
- Cross border collaboration between Mongolia and Russian Federation
- Cross border collaboration with Russian Federation – report
- Report on joint exercise with Russian Federation on ‘Response activity to suspected case of human infection during Cholera and Avian Influenza outbreak’
- Cooperation agreement on Mongolia-China border hygiene and quarantine between the general agency for specialized inspection of Mongolia and the general administration of quality supervision, inspection and quarantine of the People’s Republic of China
- Border hygiene and quarantine collaboration (Mongolia – Russia)

- Implementation of APSED at the PoE: Implementation of APSED at the PoE: Health security at the PoE (PowerPoint)
- Report on implementation of International Health Regulation (PoE)
- PoE Monitoring and Evaluation: Inspection measures to prevent the importation and spread of international quarantine diseases
- List of PoEs

Chemical events

- 2017 Law on Disaster Protection
- 2013 Order no 467 of the Minister of Health; Regulation on Surveillance and Reporting of Chemical Poisoning
- 2006 Law on Toxic and Hazardous Chemicals
- 2017 Order of the Minister of Health; Disaster Plan of the Health Sector
- 2012 Joint Order no 50/378/565 of the Minister of Environment and Tourism, Minister of Health, and General Director of NEMA; Regulation on Risk Assessment of Toxic and Hazardous Chemicals
- 2015 National Disaster Protection Plan

Radiation emergencies

- 2009 Nuclear Energy Law
- 2017 Law on Disaster Protection
- 2015 National Disaster Protection Plan
- 2015 NEC Resolution No 6: Radiation Safety Norm
- 2015 NEC Resolution No 1: Radiation Protection and Radiation Safety Basic Regulation
- Draft National Emergency Plan on Radiation Protection from Radiological Incident/Accident
- 2013 Safety Operations Guidelines for Rescue Teams
- Order of GASI Director, Surveillance, Monitoring, Assessment, Prevention Plan
- Procedure on Conduct of Risk Assessment
- 1987 Regulation on Transportation

