

JOINT EXTERNAL EVALUATION OF IHR CORE CAPACITIES

of the

KINGDOM OF LESOTHO

Mission report:
July 10-14, 2017



World Health
Organization

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Abbreviations

| | |
|----------------|---|
| AFRO | WHO Regional Office for Africa |
| AMR | Antimicrobial resistance |
| CHAL | Christian Health Association of Lesotho |
| DHIS2 | District Health Information Software |
| DMA | Lesotho Disaster Management Authority |
| EOC | Emergency operations centre |
| EPI | Expanded Programme on Immunization |
| FAO | UN Food and Agriculture Organization |
| FETP | Field epidemiology training programme |
| GLASS | WHO Global Antimicrobial Resistance Surveillance System |
| HCAI | Healthcare-associated infection |
| HIV | Human immunodeficiency virus |
| HR | Human resources |
| HRIS | Human Resources Information Management System |
| IAEA | International Atomic Energy Agency |
| IBS | Indicator-based surveillance |
| IDSR | Integrated disease surveillance and response |
| IHR | International Health Regulations |
| ILI | Influenza-like illness |
| INFOSAN | International Food Safety Authority Network |
| IPC | Infection prevention and control |
| JEE | Joint external evaluation |
| MAFS | Lesotho Ministry of Agriculture and Food Security |
| MOH | Ministry of health |
| MOU | Memorandum of understanding |
| NAP | National action plan |
| NDSO | National Drug Supply Organization |
| NFP | National focal point |
| NGO | Non-governmental organization |
| NICD | National Institute of Communicable Disease (Republic of South Africa) |
| OIE | World Organisation for Animal Health |
| WAHIS | World Animal Health Information System (OIE) |

| | |
|---------------|--|
| PCR | Polymerase chain reaction |
| PHEIC | Public health event of international concern |
| PHEMC | Public Health Emergency Management Committee (Lesotho) |
| PHEOC | Public health emergency operations centre |
| POE | Point(s) of entry |
| PVS | Perormance of veterinary services (OIE) |
| SADC | South African Development Community |
| SARI | Severe acute respiratory illness |
| SOPs | Standard operatin procedures |
| TOT | Training of trainers |
| TV | Television |
| UN | United Nations |
| US CDC | United States Centers for Disease Control |
| WHO | World Health Organization |

Executive summary

Findings from the joint external evaluation

During the JEE mission, The Kingdom of Lesotho's capacities in 19 technical areas were evaluated through a peer-to-peer, collaborative process that brought together subject matter experts from Lesotho and the JEE team.

The Kingdom of Lesotho's national **Public health Bill of 2017**, currently in draft form, will be important in linking several areas addressed in this JEE, strengthening multi-sectoral collaboration to respond to health emergencies. The Bill has to be supported by adequate resources to make it operational. Good foundations are in place: multisectoral collaboration and coordination for IHR implementation are already evident in a number of activities conducted between the Ministry of Health (MOH) and the Ministry of Agriculture and Food Security (MAFS), despite the lack of any legal framework to formalize this collaboration. The IHR NFP is appropriately situated at a high level in the Ministry of Health, and **IHR coordination** works well through informal channels. There are, however, no formal protocols outlining different sectors' roles and responsibilities in an emergency.

Cross-sectoral collaboration could improve in some areas. As in many other countries, the implementation of the IHR (2005) in Lesotho is still focussed on human health. Stronger links with competent authorities in the animal health and environmental sectors might be achieved under the "One Health" approach, through a Memorandum of Understanding (MOU) between relevant ministries or sectors that outlines roles and responsibilities for the timely management of **zoonotic diseases**, and addresses areas in which stewardship and coordination can be improved between the animal, environmental and health sectors—particularly, but not only, around activities related to antimicrobial resistance, zoonotic diseases, and food safety.

Lesotho has constituted a multi-sectoral coordinating committee that is in the process of developing the National Action Plan (NAP) on **AMR**, although all of its areas of action are currently in the inception phase.

Rabies, anthrax and to a lesser extent brucellosis and bovine tuberculosis were identified as priority **zoonotic diseases** in Lesotho. Surveillance in animal populations requires improvement, and systems are needed to ship samples from districts to the veterinary laboratory. Collaboration and data sharing between public health and animal health sectors requires strengthening in 'peacetime,' though it functions well in times of outbreaks.

There is no Food Administration Authority in Lesotho, and **food safety** issues are inadequately articulated through the IDSR framework. The JEE team recommended consolidating existing laws into a common Food Safety Law that lays the groundwork for multisectoral risk profiling of food safety events.

Lesotho's **biosafety** procedures, training and protocols in human health are at a very high level, and the staff are well trained and well provided for. This good practice should be replicated in the animal health sector. Lesotho has no biosecurity system.

Lesotho has succeeded in increasing the number of diseases targeted by its **immunization** program to nine, with a plan to include more. The cold chain is adequate at central and peripheral levels. Human resource capacity and vaccine stock management are areas of concern. Disparities in vaccine coverage require attention. These could be attributed to the quality of EPI data and the articulation of denominators.

The **national laboratory system** in the human health sector is well developed, with a wide range of services, functional specimen referral and an associated transport system. Infrastructure, equipment and

quality assurance are all relatively good. In contrast, the national laboratory system in the animal health sector is in its infancy, and requires upgrades to the infrastructure, equipment and specimen referral system.

Real-time disease **surveillance** on the human side works well, making use of an electronic reporting system on the DHIS2 platform; but systems on the animal side are still lacking. Development of electronic animal health surveillance systems, that are interoperable with the systems on the human side, is important for moving towards One Health. Involvement of communities in surveillance is critical, but Lesotho is yet to develop a community based surveillance system based on a One Health approach. This would enhance detection of public health threats.

For **reporting**, the JEE team recommended that Lesotho hold simulation exercises on coordination and reporting of potential public health emergencies of international concern (PHEICs) to WHO. An MOU between the MoH and the MAFS is needed to improve collaboration and data sharing.

Lesotho has a Human Resources Development and Strategic Plan for **workforce development**; a retention strategy; and career pathways for all health workers. The JEE team recommended reviewing the strategic plan, taking IHR core capacity into account. There is a particular need for human resource capacity in field epidemiology.

Improving **preparedness** will require a public health risk assessment and mapping of vulnerabilities and capacities, as a basis for a new national multi-hazard public health emergency preparedness and response plan. The existing national contingency plan for emergencies and various disease-specific plans will feed into the new multi-hazard plan.

There is no functioning public health **emergency operations** centre in the country, though Lesotho's Disaster Management Authority (DMA) does coordinate disaster response, in collaboration with the MoH and MAFS. The JEE team recommended establishing an emergency operations centre.


Public Health and Security Authorities are formally linked through an MOU; border agencies are similarly linked. At sub-national levels, multisectoral groups are linked through Lesotho's Public Health Emergency Management Framework, which is based on IDSR guidelines. The framework spells out the membership of the Public Health Emergency Management Committee (PHEMC), and the roles and responsibilities of the relevant sectors.

The National Drug Supply Organization is well organized and supplies drugs to approximately 90% of the health facilities in the country, with further informal mechanisms for supplying drugs in emergency situations. Staff can be mobilized quickly within the districts for emergency response. Neither system is formalised through agreements or standard operating procedures. Lesotho does not deploy medical personnel internationally.

There is no formal government multi hazard **risk communication** strategy. The JEE team recommended strengthening risk communication mechanisms, as well as mechanisms for monitoring and managing rumours and misinformation.

Lesotho has 12 official **points of entry**, of which one international airport and eight ground crossings have been designated for implementation of the IHR (2005). Although some qualified staff are present at points of entry, there is a need to increase deployment, with special focus on points of entry that operate 24 hrs a day. Lesotho needs a public health emergency contingency plan for points of entry, along with adequate referral systems.

Lesotho carries out some level of monitoring and inspection for **chemical events**, but the relevant coordination mechanisms require a basis in law. The JEE team recommended establishing a national poisons centre. Manuals, guidelines and policies have to be developed for chemical events surveillance and response.



Preparation for **radiation emergencies** is under way, with great scope for advancement. The needs in this area are not known, although one urgent requirement is to ensure the protection of X-ray technicians from ionizing radiation in the work place. Lesotho should enact its Radiation Protection Bill 2017, and establish surveillance and response capacity for radionuclear hazards/events/emergencies.

Lesotho: scores

| Technical areas | Indicators | Score |
|--|--|-------|
| 1. 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) | 2 |
| | 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) | 2 |
| 2. 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 | 1 |
| 3. Antimicrobial resistance | P.3.1 Antimicrobial resistance detection | 1 |
| | P.3.2 Surveillance of infections caused by antimicrobial-resistant pathogens | 1 |
| | P.3.3 Health care-associated infection (HCAI) prevention and control programmes | 3 |
| | P.3.4 Antimicrobial stewardship activities | 1 |
| 4. Zoonotic diseases | P.4.1 Surveillance systems in place for priority zoonotic diseases/pathogens | 3 |
| | P.4.2 Veterinary or animal health workforce | 4 |
| | P.4.3 Mechanisms for responding to infectious and potential zoonotic diseases are established and functional | 2 |
| 5. Food safety | P.5.1 Mechanisms for multisectoral collaboration are established to ensure rapid response to food safety emergencies and outbreaks of foodborne diseases | 2 |
| 6. 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 |
| 7. Immunization | P.7.1 Vaccine coverage (measles) as part of national programme | 2 |
| | P.7.2 National vaccine access and delivery | 4 |
| 8. National laboratory system | D.1.1 Laboratory testing for detection of priority diseases | 4 |
| | D.1.2 Specimen referral and transport system | 1 |
| | D.1.3 Effective modern point-of-care and laboratory-based diagnostics | 3 |
| | D.1.4 Laboratory quality system | 2 |
| 9. Real-time surveillance | D.2.1 Indicator- and event-based surveillance systems | 4 |
| | D.2.2 Interoperable, interconnected, electronic real-time reporting system | 2 |
| | D.2.3 Integration and analysis of surveillance data | 3 |
| | D.2.4 Syndromic surveillance systems | 4 |
| 10. Reporting | D.3.1 System for efficient reporting to FAO, OIE and WHO | 2 |
| | D.3.2 Reporting network and protocols in country | 2 |

| | | |
|---|--|---|
| 11. Workforce development | D.4.1 Human resources available to implement IHR core capacity requirements | 1 |
| | D.4.2 FETP ¹ or other applied epidemiology training programme in place | 1 |
| | D.4.3 Workforce strategy | 2 |
| 12. Preparedness | R.1.1 National multi hazard public health emergency preparedness and response plan is developed and implemented | 1 |
| | R.1.2 Priority public health risks and resources are mapped and utilized | 1 |
| 13. Emergency response operations | R.2.1 Capacity to activate emergency operations | 1 |
| | R.2.2 EOC operating procedures and plans | 1 |
| | R.2.3 Emergency operations programme | 1 |
| | R.2.4 Case management procedures implemented for IHR relevant hazards. | 2 |
| 14. 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 | 4 |
| 15. Medical countermeasures and personnel deployment | R.4.1 System in place for sending and receiving medical countermeasures during a public health emergency | 1 |
| | R.4.2 System in place for sending and receiving health personnel during a public health emergency | 1 |
| 16. Risk communication | R.5.1 Risk communication systems (plans, mechanisms, etc.) | 1 |
| | R.5.2 Internal and partner communication and coordination | 3 |
| | R.5.3 Public communication | 3 |
| | R.5.4 Communication engagement with affected communities | 1 |
| | R.5.5 Dynamic listening and rumour management | 2 |
| 17. Points of entry | PoE.1 Routine capacities established at points of entry | 1 |
| | PoE.2 Effective public health response at points of entry | 1 |
| 18. Chemical events | CE.1 Mechanisms established and functioning for detecting and responding to chemical events or emergencies | 1 |
| | CE.2 Enabling environment in place for management of chemical events | 1 |
| 19. Radiation emergencies | RE.1 Mechanisms established and functioning for detecting and responding to radiological and nuclear emergencies | 1 |
| | RE.2 Enabling environment in place for management of radiation emergencies | 1 |

¹ FETP: Field epidemiology training programme

PREVENT

National legislation, policy and financing

Introduction

The International Health Regulations (IHR) (2005) provide obligations and rights for States Parties. In some States Parties, implementation of the IHR (2005) may require new or modified legislation. Even if new or revised legislation may not be specifically required, states may still choose to revise some regulations or other instruments in order to facilitate IHR implementation and maintenance more effectively. Implementing legislation could serve to institutionalize and strengthen the role of IHR (2005) and operations within the State Party. It could also facilitate coordination among the different entities involved in their implementation. See detailed guidance on implementing IHR (2005) in national legislation at: http://www.who.int/ihr/legal_issues/legislation/en/index.html. In addition, it is important to have policies that identify national structures and responsibilities, and allocate adequate financial resources.

Target

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

States Parties to ensure the provision of adequate funding for IHR implementation, through the national budget or another mechanism.

Lesotho level of capabilities

Lesotho conducted an IHR core capacity assessment in 2011. One of its recommendations was to review the Public Health Bill of 1970, since the order is outdated and covers only four diseases: smallpox, cholera, yellow fever and plague. In 2014 the Lesotho MoH started drafting a Public Health Bill that includes other diseases, as required under the IHR(2005). This Bill has not yet been enacted into law.

The MoH has a memorandum of understanding (MOU) with the Republic of South Africa (South Africa) that covers a number of areas, including various aspects of collaboration between the two countries on prevention and control of Tuberculosis.

Multisectoral collaboration and coordination for IHR implementation is evident in a number of activities conducted jointly by the MoH and MAFS, but there is no legal framework that formalizes this collaboration. If any outbreak of a notifiable disease occurs for which an export prohibition is required, the Importation and Exportation of Livestock and Livestock Products Proclamation Act of 1984 is used to control movement of livestock and livestock products from any part of Lesotho or outside the country.

Recommendations for priority actions

- The Public Health Bill of 2017 should be enacted into law, and should cover other diseases as required under the IHR (2005)

- A multisectoral technical committee should be established and strengthened to address all Lesotho's legal requirements under the IHR (2005).

Indicators and scores

P.1.1 Legislation, laws, regulations, administrative requirements, policies or other government instruments in place are sufficient for implementation of International Health Regulations (IHR) (2005) - Score 2

Strengths/best practices

- An assessment of IHR core capacity was conducted in 2011
- There is an MOU between the Lesotho MoH and South Africa regarding cross border surveillance and response
- Integrated Disease Surveillance and Response (IDSR) guidelines were adapted in 2011.

Areas that need strengthening/challenges

- Review the Public Health Bill to meet the requirements of the IHR (2005). Shift the focus from four priority diseases to all Public Health Events of International concern (PHEIC), in line with the decision making instrument.
- Strengthen multisectoral collaboration between the Ministry of Health and other line ministries.

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 2

Strengths/best practices

- An assessment of IHR core capacity was conducted in 2011
- The Public Health Bill of 2017 has been drafted
- A revised IDSR guideline is in place
- The Plant Protection Policy of 2012 has been drafted
- The Importation and Exportation of Livestock Amendment Act of 1984 is in place.

Areas that need strengthening/challenges

- Cross-sectoral coordination is not enshrined in the legal and regulatory frameworks, so there is a need to ensure proper intersectoral coordination.

IHR coordination, communication and advocacy

Introduction

The effective implementation of the IHR requires multisectoral/multidisciplinary approaches through national partnerships for efficient and alert 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

The national IHR focal point to be accessible at all times to communicate with the WHO regional IHR contact points and with all relevant sectors and stakeholders in the country. States Parties to provide WHO with contact details of their national IHR focal points, update them continuously, and confirm them annually.

Lesotho level of capabilities

Lesotho has identified a national IHR focal point (NFP), supported by a three-person team at national level. The NFP unit also covers the functions of the IDSR focal point, and the clinical functions of a public health nurse responsible for port health. The NFP originally resided in the Disease Control Unit in the MOH, but following a recent change in health minister, it now resides in the Office of the Director General of Health. This new position will facilitate rapid high-level decision-making in the event of an emergency—for example, for the deployment of a rapid response team.

Coordination during emergencies is reported to work well, but there is no formal communication protocol, whether in the presence or the absence of an emergency. Through the JEE process, focal points in other ministries related to IHR implementation have been nominated; this core group now forms the IHR coordination committee. Coordination meetings, which, prior to the JEE process were conducted quarterly, will now be conducted on a monthly basis.

Technical guidelines are available in the form of the IDSR, but the country would also benefit from standard operating procedures (SOPs) for coordination prior to, and during, emergencies. These SOPs should also include mechanisms for requesting and releasing emergency funds.

Each of Lesotho's 10 districts has a multidisciplinary rapid response team from the MoH, in addition to multisectoral emergency preparedness and response teams. There is also a national emergency preparedness and response team.

When a health alert occurs, the rapid response team conducts a risk assessment, and implements preliminary response actions. If a multi-sectoral response is required, the rapid response team engages the emergency preparedness and response team at district level. Should further support be required, the disaster management team can be mobilized at district level.

The country takes every opportunity to advocate for IHR (2005). There are regular TV and radio spots during which specific issues are discussed (such as the IHR, vaccination activities, and outbreaks or pandemics). The IHR are also often raised as an opening topic in meetings, and highlighted (along with IDSR) during trainings.

Recommendations for priority actions

- Finalize standard operating procedures for coordination, information sharing and information flows, and activation of emergency response.
- Formalise existing informal collaboration mechanisms through MoUs between the IHR implementing ministries, outlining the roles and responsibilities of each ministry in the event of an outbreak or emergency response.
- The emergency preparedness and response teams at district level should formalize their standard operating procedures, meet regularly, and develop emergency response plans for high priority risks in their respective districts.

Indicators and scores

P.2.1 A functional mechanism is established for the coordination and integration of relevant sectors in the implementation of IHR - Score 1

Note: while level 1 indicates the absence of a coordination mechanism, this is not the case in Lesotho. There is an informal coordination mechanism; but it is not guided by standard operating procedures. Were these present, Lesotho would score 3.

Strengths/best practices

- Coordination meetings are held regularly.
- There are trained multi-sectoral coordination and response teams present in the districts.

Areas that need strengthening/challenges

- While coordination during emergencies works well, there is no formalized structure, with terms of reference, to continue coordination efforts in the absence of an emergency.
- There are no standard operating procedures for the coordination committee.

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, this 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, economic security and national security.

Target

Support work coordinated by the 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). This would include: (i) having a national comprehensive plan for each country to combat antimicrobial resistance; (ii) strengthening surveillance and laboratory capacity at national and international levels following agreed international standards developed in 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 with systems to preserve new antibiotics.

Lesotho level of capabilities

Lesotho is a signatory to the United Nations Political Declaration on Antimicrobial Resistance (AMR) and World Health Assembly Resolution WHA 68.7. The latter requires Member States to have national action plans (NAPs) on AMR in place before May 2017, or as soon as possible thereafter. To this end, in January 2017, Lesotho attended the 2nd Regional Workshop on NAP Development convened by the WHO Regional Office for Africa (WHO AFRO), and obtained funding from WHO AFRO to develop its NAP.

Lesotho has put in place a multi-sectoral coordinating committee, which is in the process of developing the NAP. The NAP will be presented to upper management in the Lesotho government in late July 2017.

The NAP will be based on a comprehensive situational analysis, and will identify mechanisms to initiate and/or enhance Lesotho's capacity related to:

- AMR detection
- Surveillance of infections caused by antimicrobial-resistant pathogens
- Healthcare associated infection prevention and control programmes
- Antimicrobial stewardship activities.

All of these are currently in the inception phase.

Antibiotics are prescription-only medicines in both human and animal health in Lesotho, and their use is monitored in both sectors. Antibiotic prescription patterns are currently being assessed in six hospitals, and a medicines access survey was conducted in June 2017. A meeting of antimicrobial stewardship stakeholders was convened in 2017.

A national stewardship plan is yet to be developed.

Routine, representative surveillance of AMR is not undertaken in human health, animal or environmental health. By the end of 2017 there will be just three laboratories with microbiology capability in the country, and there is no national plan for detecting and reporting priority antimicrobial resistant pathogens, or for surveillance of infections caused by these pathogens. The vast majority of infections are thus syndromically managed. The country is yet to enrol in the WHO Global Antimicrobial Resistance Surveillance System (GLASS).

Antibiotic residues are not tested in animal products. Farmers may be sourcing antimicrobials from South Africa for prophylaxis, metaphylaxis and growth promotion in food animals.

While hospitals participate voluntarily in the Hospital and Health Centre Certification and Accreditation system, and general infection prevention and control (IPC) policies and procedures are in place, healthcare associated infections and the prevention and control thereof are not explicitly mentioned in either the certification and accreditation system or the IPC policies and procedures. A national Infection Control Plan was approved by the Quality Assurance Unit of the Ministry of Health in June 2016, and is being implemented by several health facilities. It is yet to be evaluated.

Recommendations for priority actions

- Ensure that the Lesotho National Action Plan:
 - Includes a comprehensive situational analysis on antimicrobial use, resistance and stewardship in human, (food) animal and environmental health
 - Addresses the JEE priority areas on AMR.
- Institute sentinel surveillance of antimicrobial use and resistance in selected healthcare facilities.
- Enrol in GLASS.
- Introduce antibiotic stewardship programmes in all healthcare facilities at all levels of healthcare.
- Incrementally introduce the monitoring of AMR in the food production chain, 'from farm to fork,' using the methodology of the WHO Advisory Group on the Integrated Surveillance of AMR.

Indicators and scores

P.3.1 Antimicrobial resistance detection - Score 1

Strengths/best practices

- A multi-sectoral team has been constituted to develop the NAP on AMR.
- The process for developing the NAP on AMR has been initiated, and WHO AFRO has provided catalytic funding for this process.

Areas that need strengthening/challenges

- Laboratories with AMR detection and reporting capacity have to be set up.
- A plan for the detection of priority AMR pathogens needs to be developed.

P.3.2 Surveillance of infections caused by resistant pathogens - Score 1

Strengths/best practices

- The country has 18 hospitals that can be used for the sentinel surveillance of AMR in priority pathogens.
- Laboratories have staff that can be upskilled with AMR surveillance competences.

Areas that need strengthening/challenges

- A plan has to be developed for the surveillance of AMR priority pathogens.
- Laboratory infrastructure has to be expanded.
- Continuous upskilling and capacity building of laboratory personnel must be undertaken.

P.3.3 Healthcare associated infection (HCAI) prevention and control programmes - Score 3**Strengths/best practices**

- The Infection Prevention and Control Plan 2016 contains processes to reduce and prevent nosocomial infections.
- Isolation wards are available in hospitals.
- IPC committees are established and functional in a number of health facilities.
- Surveillance in high-risk groups is conducted on a regular basis.
- Infection prevention and control measures are assessed and monitored.

Areas that need strengthening/challenges

- Continuous training and monitoring of IPC committees should be implemented in health facilities.
- Inadequate hospital capacity results in the use of isolation blocks to accommodate non-infectious patients.

P.3.4 Antimicrobial stewardship activities - Score 1**Strengths/best practices**

- Antibiotic prescription patterns are being assessed in six hospitals.
- Antimicrobial use in humans and animals is monitored.
- A medicine access survey was conducted in June 2017 (results pending).
- Antibiotic use in Lesotho is prescription-only.
- When laboratory facilities allow, sensitivity tests are conducted on pathogens and prescriptions are made accordingly.
- Stakeholders have been identified for the inception of an antimicrobial stewardship programme.

Areas that need strengthening/challenges

- A antimicrobial stewardship plan should be developed urgently.
- The National Pharmaco-Therapeutic Committee should be revived to oversee the implementation and monitoring of the antimicrobial stewardship plan.
- Antibiotic access and prescription should be assessed in all hospitals in the country.
- Because laboratory districts do not have capacity to conduct sensitivity tests, antibiotic prescription is most often based on syndromes.
- There is no residue testing in animal products.
- Lesotho has no drug registration authority.

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 their transmission. Approximately 75% of recently emerging infectious diseases affecting humans were of animal origin; and approximately 60% of all human pathogens are zoonotic.

Target

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

Lesotho level of capabilities

A mechanism to identify priority zoonotic diseases is in place, and both the human and animal health sectors have agreed that anthrax and rabies are the two priority zoonoses. Lesotho Veterinary Services regularly report anthrax and rabies outbreaks to OIE WAHIS and in their annual reports, and both diseases are also surveyed in humans (with reports on a weekly basis). Bovine brucellosis and tuberculosis are also zoonoses of concern in Lesotho.

A system for routine screening is in place for brucellosis in dairy cows, but it is not continuous (each dairy cow is tested only once, and is then awarded a certificate), and it requires the owner to bring milk samples to the laboratory. In addition, 2,000 samples are collected on a yearly basis for foot-and-mouth disease testing, which are sometimes also tested for brucellosis. Prevalence studies are also carried out for ticks and helminths. Tuberculosis testing is conducted for export of non-slaughter cattle to South Africa only. For all other animal diseases, including zoonoses, surveillance relies exclusively on community reporting (passive surveillance) and active sampling is only implemented in response to outbreaks, or when a particular threat is identified (e.g. active surveillance in poultry following the detection of avian influenza outbreaks in South Africa).

In the case of anthrax, humans are usually detected first, due to consumption of meat from dead cattle, and diseased animals are detected during investigations. For rabies, the animal health division is alerted on presentation of dog bites, or when an owner reports the death or strange behaviour of his dog/cow.

One issue impacting the efficiency of surveillance is the lack of a specimen transport system. Samples from district level are rarely sent to the veterinary laboratory based in Maseru. Following any report of suspected anthrax or rabies, staff from the animal health laboratory go to the field to collect the samples. During emergencies, however, the government and the Food and Agriculture Organization of the United Nations (FAO) make transport available for surveillance operations.

There is a shortage of veterinary professionals in Lesotho. There are only 10 veterinary officers in the country (one in each district), assisted by a total of 68 animal health technicians. Six private veterinarians also contribute to the field network and report suspicions, but they rarely ship specimens to the laboratory for confirmation, and diagnosis is usually clinically based.

The veterinary laboratory has the capacity, equipment and reagents required for the laboratory diagnosis of priority zoonotic diseases (rabies, anthrax, brucellosis and tuberculosis), and follows the standards of the OIE Terrestrial Animal Health Code, but it is understaffed (with only two laboratory technicians). Human

health and animal health laboratories are not linked, and there is no process for sharing results, reports or specimens.

In the absence of outbreaks, interactions between the MoH and the MAFS are very rare. There is no MOU outlining the roles and responsibilities of each sector/ministry in preventing, detecting and responding to zoonotic diseases. An Emergency Joint Control Plan exists only for avian influenza.

Meetings and sharing of information occur on an ad hoc basis in outbreak situations. Results from surveillance in animal populations are not routinely shared, but when a positive case is found, district authorities are notified by phone. During emergencies, a fast-track mechanism is in place to facilitate communication, and outbreak response teams are established with representatives from both sectors. Both ministries also organize joint awareness campaigns in outbreak situations.

An Animal Health and Animal Production Policy is currently being drafted. It is planned to include management of zoonosis and collaboration with other sectors.

Recommendations for priority actions

Establish an MoU between relevant ministries or sectors, outlining roles and responsibilities for the timely management of zoonotic diseases.

- Develop a formal communication pathway for the systematic sharing of epidemiological data and reports between the animal and human health sectors.
- Develop a sample transportation system to send samples collected in districts to the veterinary laboratory
- Finalize and endorse the Animal Health and Animal Production Policy.

Indicators and scores

P.4.1 Surveillance systems in place for priority zoonotic diseases/pathogens - Score 3

Strengths/best practices

- There is a mechanism in place to identify priority zoonotic diseases that pose a national health risk.
- Surveillance for tuberculosis is conducted, but only on exported non-slaughter bovines, as this is an import requirement for South Africa.
- Surveillance systems are in place for priority zoonotic diseases in human populations, and results are reported regularly.
- Passive surveillance systems for priority zoonotic diseases in animal populations are functional in Maseru (though limited in districts).
- The animal health laboratory has the capacity, equipment and reagents for testing identified priority zoonotic diseases.
- The animal health laboratory follows the standards of the OIE Terrestrial Animal Health Code for disease diagnosis.
- An active surveillance system is in place for brucellosis for all dairy cows (milk testing), but it is not continuous.

Areas that need strengthening/challenges

- Surveillance of zoonotic diseases in animal populations relies almost exclusively on passive surveillance.
- Transport of samples from districts to the animal health laboratory is a major challenge, and samples

collected at district level are rarely sent to the laboratory.

- There are only two technicians working in the animal health laboratory.
- There is no linkage between laboratories of the two Ministries to enable sharing of reports or specimens.
- Sharing of surveillance information between the two sectors happens only during outbreaks.
- Active surveillance for brucellosis should be continuous.

P.4.2 Veterinary or animal health workforce - Score 4

Strengths/best practices

- Veterinary officers at national and district level have received public health training.

Areas that need strengthening/challenges

- There is a shortage of veterinary professionals (with only one veterinary officer in each district).
- There is a need for more advanced training in epidemiology (a Field Epidemiology Training Programme/ FETP or equivalent).

P.4.3 Mechanisms for responding to zoonoses and potential zoonoses are established and functional - Score 2

Strengths/best practices

- There are ad hoc mechanisms for collaboration between the MoH and MAFS during emergencies.
- Inter-ministerial response teams are established in the event of an outbreak.
- Outbreaks are documented and shared between both ministries.
- There is a joint plan for avian influenza, developed by both ministries.
- There is a formal agreement with South Africa to mobilize personnel in case of an emergency.

Areas that need strengthening/challenges

- There is no national strategy or plan that is documented for the response to zoonotic events other than avian influenza.
- There is no MOU between relevant ministries for the management of zoonotic diseases.
- There is no collaboration with the Wildlife Section of the Ministry of Tourism, Environment and Culture.
- The Animal Health and Animal Production Policy is still being drafted.

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 an outbreak's source and its subsequent containment are critical for control. Risk management capacity must be developed with regard to control throughout the food chain continuum. If epidemiological analysis identifies food as the source of an event, suitable risk management options that ensure the prevention of human cases (or further cases), based on risk assessments, must be put in place.

Target

States Parties to have surveillance and response capacity for risks or events related to food- and water-borne diseases, with effective communication and collaboration among the sectors responsible for food safety and safe water and sanitation.

Lesotho level of capabilities

Lesotho has no food control authority: issues of food safety are currently addressed by a Food Safety Programme within the MOH. Other stakeholders include the Ministry of Trade and Industry, the MAFS, and the Ministry of Tourism, Environment and Culture. Food safety related regulations or laws are fragmented, and each stakeholder institution has a different policy or legislation in use. This poses challenges when agencies have to collaborate, and there is no multi-sectoral risk profiling of food safety events.

There are 10 District Health Inspectors, one for each district, with Environmental Health Assistants at the peripheral level and Port Health Officers at all points of entry into Lesotho.

There is limited laboratory support for food safety investigations. The common causative organisms of foodborne illnesses include *Salmonella typhi* and *Escherichia coli*. Linking with the PVS report, concerns other than the bacterial diseases already mentioned, included trichinosis and cysticercosis.

Food safety events are identified under the IDSR framework and investigated by the district emergency response team. The surveillance system currently in place is not well positioned to capture food safety events that could be due to chemical contamination.

There is only one abattoir, which is located in the capital, Maseru, and is not easily accessible from many parts of the country. There is currently no 'farm to fork' approach to food safety activities.

Lesotho is part of the International Food Safety Authority Network (INFOSAN).

Recommendations for priority actions

Finalise the draft Food Safety Policy.

- Enact one Food Control Law.
- Establish a Food Control Body to manage food safety issues using the 'farm to fork' continuum.

- Develop a Public Health Laboratory for food safety issues (food microbiology, testing for food safety issues related to chemicals, and issues to do with AMR).
- Establish a multi-sectoral team to conduct risk profiling of food safety problems.

Indicators and scores

P.5.1 Mechanisms are established and functioning for detecting and responding to food-borne disease and food contamination - Score 2

Strengths/best practices

- An established team is in place at national level to manage food safety issues.
- A Food Safety Bill to facilitate food safety control management systems is currently being drafted.
- Relevant staff in the districts are trained to respond to foodborne illness.

Areas that need strengthening/challenges

- Laboratory capacity should be increased to ensure the ability to investigate a wide range of food safety concerns.
- The draft Food Safety Bill should be completed and enacted into law.

Biosafety and biosecurity

Introduction

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

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

Target

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

Lesotho level of capabilities

Lesotho has 18 laboratories in the human health system, and one laboratory for animal health. There is one National Reference Laboratory in Maseru; two regional laboratories, one for the north and one for the south; and 15 district laboratories. Of these 18 laboratories, two currently conduct microbiological culture of pathogens, with a third expected to commence culture later in 2017. Laboratory services in Lesotho are relatively well supported, with national funding and support from the United States Centres for Disease Control (US CDC).

Lesotho has a strong biosafety system within the health system—with trained safety officers in each laboratory—and at national level within the MOH. These officers undergo safety training each year, and are provided with protective equipment (lab coats, masks and gloves) on a regular basis. Laboratory training courses in Lesotho's educational institutions also have units on biosafety, and new staff in laboratories are oriented on safety matters specific to their workplaces. Human health laboratories follow International Organization for Standardization (ISO) standards for quality and safety.

Laboratory staff in the animal health laboratory do not follow the same processes. While there is a quality safety manual available in the animal health laboratory, staff do not undergo refresher training, nor do they follow the same training programme. The animal laboratory does not conduct culturing of microbes. No cooperation policy or procedures are in place between the animal health laboratory and the human health laboratories.

In those laboratories that do conduct cultures, those cultures are kept for up to a week prior to destruction. Destruction is carried out by autoclaving followed by incineration.

Microbes, pathogens and toxins are not stored in any government laboratory. The situation regarding private laboratories is not clear.

The country currently has no system for registering or licensing laboratories.

There are no biosecurity systems in place for human, animal or agricultural facilities.

Recommendations for priority actions

Review the draft Public Health Bill 2017 to examine whether biosafety and biosecurity is included. If not, investigate mechanisms for including health laboratory biosafety in the Ministry of Environment's Biosafety Bill.

- Develop training materials on biosecurity, and include them in laboratory training curricula.
- Develop a regulatory framework for licensing or accrediting both human and animal laboratories.

Indicators and scores

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

Strengths/best practices

- Laboratory entrance and access is restricted to authorized personnel.
- Laboratory services are comparatively well funded, with support from government and external agencies.
- Quality assurance in human health laboratories follows ISO standards.

Areas that need strengthening/challenges

- The draft Public Health Bill 2017 should be amended to include biosafety and biosecurity.
- Laboratories are not licensed in Lesotho, but this will be covered under the draft Public Health Bill 2017.
- Lesotho has only minimal biosecurity procedures.

P.6.2 Biosafety and biosecurity training and practices Score 2

Strengths/best practices

- A biosafety training programme, including both initial and refresher training, is well established for human health laboratories.
- Staff are regularly tested for compliance with biosafety procedures, and deficiencies are addressed in an action plan.
- The National Health Training Centre offers an academic programme for medical laboratory scientists.

Areas that need strengthening/challenges

- Staff at the animal health laboratories have limited access to initial or refresher training.
- Standard Operating Procedures (SOPs) in the animal health laboratory need to be reviewed, updated and improved.

Immunization

Introduction

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

Target

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

Lesotho level of capabilities

Lesotho has a functional immunization programme, launched in 1979, with six antigens provided for children aged less than one, with the objective of increasing coverage by 5% annually. Vaccines are administered to all eligible target groups, including children and pregnant mothers. The Expanded Program on Immunization (EPI) currently targets nine diseases (tuberculosis, polio, measles, diphtheria, pertussis, tetanus, pneumococcal pneumonia, meningitis due to haemophilus influenza type b, and hepatitis due to Hepatitis B virus). Plans are also in place to add additional vaccines into the routine immunization schedule for children aged less than one, and to add Human papilloma virus for adolescents. In particular, rotavirus vaccine is scheduled for launch by October 2017. The last measles supplementary immunization campaigns were implemented in 2017 as a catch-up, targeting all children aged from 9 months to 14 years inclusive. The last measles outbreak was in 2010. Between 2010 and 2017, there has been only one positive test for measles.

Vaccinations are mandatory in Lesotho and immunization services are provided in both public and Christian Health Association of Lesotho (CHAL) clinics, and some private clinics. The total number of health facilities reporting is 193; but challenges of accessibility and utilization of immunization services remain.

Surveillance for adverse events following immunization was established in 2016, and a national expert committee is in place.

Lesotho's comprehensive multiyear plan for vaccination 2012-2016 was developed in line with the National Health Strategic Plan, and draws from the Global Vaccine Action Plan and the Regional Immunization Strategic Plan. It is from this multi-year plan that the programme plan of action is developed.

Lesotho's cold chain system is adequate, with all health facilities having functional immunization refrigerators, and two central vaccine stores in Maseru. Vaccines are distributed to districts from central level on a quarterly basis, and from districts onward to health facilities. The government has allocated a budget for procurement of all traditional vaccines, and co-finances the new vaccines.

According to the Lesotho Demographic and Health Surveys in 2009 and 2014, the country achieved measles vaccination coverage of 90%; but reported administrative coverage for measles in 2016 was only 68%. This huge gap between administrative coverage and coverage from the survey raises concerns regarding denominators and data quality. In order to address data quality issues, the MoH (through the EPI programme) is planning a data quality review before the end of 2017.

Remaining challenges include:

- The capacity of health workers to plan and implement immunization service delivery is inadequate. Eighteen district public health nurses from government and CHAL institutions were recently trained on mid-level management at central level, and plans are in place to train facility providers on basic EPI.
- Stock-outs are still experienced at lower levels, due to limited capacity in forecasting and overall programme management issues at lower levels of the health system.
- Establishment of the national regulatory authority has been delayed.

Recommendations for priority actions

- Fast track the establishment of a national regulatory agency for regulation of vaccines, particularly for the introduction of new vaccines.
- Conduct a data quality review for routine immunization data.
- Implement the recommendations of the EPI human resources assessment report.
- Build capacity of staff at lower levels in programme management in general, and EPI in particular.

Indicators and scores

P.7.1 Vaccine coverage (measles) as part of national programme - Score 2

Although survey reports showed higher coverage figures, the country experts described routine data persistently showing lower numbers, with the 2016 measles coverage at 68%. Considering their experience and Lesotho's difficult terrain, it was decided to use the lower figures from the routine report as a basis for scoring.

Strengths/best practices

- Lesotho is financing the procurement of traditional vaccines, and co-finances that of new vaccines.
- An immunization plan is in place (comprehensive multi-year plan).

Areas that need strengthening/challenges

- Data quality needs to be reviewed and improved.
- Staff capacity must be built for forecasting and programme management.

P.7.2 National vaccine access and delivery - Score 4

Strengths/best practices

- EPI service is provided in all registered facilities.

Areas that need strengthening/challenges

- Stock outs are still experienced, irrespective of available mechanisms.

DETECT

National laboratory system

Introduction

Public health laboratories provide essential services including disease surveillance, disease and outbreak detection, emergency response, and environmental monitoring. State and local public health laboratories can serve as focal points for a national system, through their core functions for human, veterinary and food safety. These include disease prevention, control and surveillance; integrated data management; reference and specialized testing; provision of 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.

Lesotho level of capabilities

A functional national laboratory system is critical to several IHR indicators, including those around antimicrobial resistance, zoonotic diseases, food safety, biosafety, biosecurity, and real-time surveillance.

Lesotho's national laboratory system for the human health sector is well developed, with one national referral laboratory in Maseru; a national referral laboratory for tuberculosis; 18 laboratories in the districts; a blood bank; and four private laboratories offering bacteriology, virology, parasitology, serology, biochemistry, haematology, and cytogenetic and transfusion medicine services.

There is a functional specimen referral system with associated transport systems for specimens from all 10 districts (including a helicopter service for emergencies); and there is a substantial workforce of some 230 laboratory technicians. There is relatively good infrastructure and equipment, and several SOPs and guidelines are in place. All public sector laboratories are subject to a comprehensive internal and external quality assurance system, with feedback and mentorship for remediation, participate in the regional network of laboratories, and have instituted supply chain management. The quality assurance unit is manned by a quality manager at central national level, and by quality officers at district level.

In contrast, the national laboratory system in the animal health sector is in its infancy. It consists of a single national referral laboratory with ad hoc referral of specimens from some districts, in the absence of a structured transport system. Infrastructure and equipment are inadequate, limiting the nature and extent of diagnostic services and testing offered. While the national laboratory system in the animal health sector is capable of collecting, packaging and storing specimens, there is an ad hoc transport system between the districts and the central national referral laboratory.

Recommendations for priority actions

Set up a national laboratory accreditation and licensing body.

- Put in place an MOU between the MoH and MAFS that enables the latter to utilize the transport systems of the human health national laboratory system.

- Improve the infrastructure of the animal health national laboratory system, and ensure it is adequately equipped.
- Put in place comprehensive maintenance and service contracts for major and minor equipment in both national laboratory systems.

Indicators and scores

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

Both national laboratory systems are collectively capable of conducting some 14 tests: tests for cholera, HIV, malaria, measles, meningitis, rubella, tuberculosis, typhoid and shigellosis in humans; and tests for anthrax, brucellosis, rabies, avian influenza and Newcastle disease in animals.

Strengths/best practices

- National diagnostic algorithms and IDSR technical guidelines are in place and aligned with international standards in government and CHAL laboratories.
- Several core and priority disease tests can be conducted at national level, with a strategic plan to address tests that are not being done currently. 10% of surveillance samples are sent to the National Institute of Communicable Disease (NICD) of South Africa for external validation and quality assurance.
- Government procurement processes are in place and are supported by the Supply Chain Unit in the MOH.

Areas that need strengthening/challenges

- Infrastructure and equipment should be improved in the animal sector national laboratory system.
- Maintenance and service contracts should be put in place for major and minor equipment in both laboratory systems.
- The government should take ownership of tests done outside the country, thereby limiting dependence on donor funding.

D.1.2 Specimen referral and transport system - Score 1

Strengths/best practices

- According to an MOU with the MoH, 80% of specimens are transported between district and national levels with the NGO, Riders for Health.
- A specimen tracking system is in place and specimen referral is documented on an electronic database.
- SOPs are available for sample collection, packaging and transport.
- The Ministry of Health uses DHL for out-of-country transportation of specimens, supported by partners such as WHO.
- Lesotho is part of the International Laboratories Network.

Areas that need strengthening/challenges

- The budget for regional transportation and testing of specimens is funded by WHO, raising sustainability issues.
- A specimen transport system is absent in the animal sector national laboratory system.

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

Lesotho undertakes point-of-care tests for HIV and cryptococcal meningitis in six of its 10 districts. The national laboratory system in human health is capable of carrying out bacteriology, serology and PCR testing.

Strengths/best practices

- Point-of-care diagnostics are available for some tests, supported by standardized implementation guidelines.

Areas that need strengthening/challenges

- An operational plan should be implemented to expand coverage of point of care diagnostics.
- There should be less dependence on donor funding for laboratory activities.

D.1.4 Laboratory quality system - Score 2

Strengths/best practices

- A draft document for a national laboratory accreditation and licensing system has been developed, but implementation is pending government approval.
- Both national laboratory systems implement quality standards aligned to international standards (WHO and OIE respectively).
- There is a quality manager and a quality assurance unit at central level.
- Supportive supervision, mentorship and training is conducted by the laboratory department at national level using standardized, documented supervision procedures, with feedback and corrective measures undertaken when assessment results are sub-optimal.
- Laboratory assessment indicators include, but are not limited to, turnaround time and specimen rejection.
- An External Quality Assurance programme is in place for all tests in all public laboratories.

Areas that need strengthening/challenges

- A national laboratory accreditation and licensing system should be established.
- Laboratories should be accredited by WHO, FAO or OIE.

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 indicators, 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 subnational, national and international levels of authority regarding surveillance of events of public health significance; and improved country and regional capacity to analyse and link data from and between strengthened, real-time surveillance systems, incorporating interoperable, interconnected electronic reporting systems. 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 IHR and OIE standards.

Lesotho level of capabilities

Given Lesotho's small size and limited resources, surveillance works well, particularly indicator-based surveillance for human health.

Lesotho adapted the 2nd edition (2010) WHO AFRO Integrated Disease Surveillance and Response (IDSR) Technical guidelines in 2012, selecting a total of 35 priority diseases, conditions and events under IDSR for immediate, weekly and monthly reporting. A total of 18 diseases, conditions and events are classified for immediate and weekly reporting. After adaptation of the IDSR there was training of trainers (TOT) for the national IDSR task team and all the 10 districts. Stepdown training was done for all facilities.

Lesotho has a total of 290 reporting sites in 10 districts for Indicator-based Surveillance (IBS). Health facilities compile weekly reports and submit them to district level through different modes including paper forms, telephone calls, SMS messages and email. DHIS2, an electronic system for indicator-based surveillance, is in place in all 10 districts. Data is entered into the DHIS2 system at the district level, and from there it becomes available at national level.

Event-based surveillance is only partially developed. Event-based surveillance consists of both formal and informal sources. The formal data sources are within the health care system, and this part is in place in Lesotho, even if events are not yet reported through the electronic DHIS2 system, but rather on forms under IDSR. The other part—collecting data on unusual events from informal sources such as community members, social media, rumours and newspapers—is not in place in any systematic way.

Community-based surveillance is normally categorized under event-based surveillance. In Lesotho there is no systematic community-based surveillance in place today.

Suspected outbreaks and rumour logbooks exist at national and district levels. A total of six suspected outbreaks/rumours were logged at national level in 2016, and three had been logged in 2017 by the time of the JEE in mid-July.

Recommendations for priority actions

- Develop an electronic reporting system for animal health that is integrated and interoperable with the DHIS2 system for human health.
- Expand existing event-based surveillance to collect data from informal sources, including community-based surveillance. This should be done incrementally based on available resources.
- Institutionalize mechanisms for improving data quality, data analysis and information sharing. Regular data quality assessment and sharing of information products (e.g. bulletins) will enhance data demand and use.
- Implement sentinel surveillance as part of syndromic surveillance for priority syndromes such as influenza-like illness (ILI), severe acute respiratory illness (SARI), etc.

Indicators and scores

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

Strengths/best practices

- Indicator-based surveillance is in place, through the electronic DHIS2 system, in all 10 districts
- Event-based surveillance is in place.

Areas that need strengthening/challenges

- To fully meet the capacity requirements of indicator D.2.1 score 4, the following capacities must be strengthened:
 - The event-based surveillance system should be expanded to include informal data sources—i.e. data sources outside the health care system, such as community level sources, TV, social media and newspapers
 - The event-based surveillance form is not yet included in the DHIS2 electronic surveillance system.

D.2.2 Interoperable, interconnected, electronic real-time reporting system - Score 2

Both the human side and the animal side were considered from a One Health perspective; since no electronic real-time reporting system is yet in place on the animal side, it is not possible to have the two surveillance systems interconnected.

Strengths/best practices

- Electronic real-time reporting systems are in place for human health (though these are not interoperable or interconnected)
- The DHIS2 platform makes it easy to access data across all levels of management
- All levels, from national to district level, can interpret surveillance data through the DHIS2 integrated dashboard capacity.

Areas that need strengthening/challenges

- An electronic system for the animal health sector is required, which should be interoperable and interconnected with DHIS2
- Electronic systems are not interoperable or interconnected, and there are no current plans to interconnect/interoperate them. There is no sharing of electronic surveillance systems.

D.2.3 Analysis of surveillance data - Score 3

Strengths/best practices

- Surveillance is in place between the MOH and laboratories.
- Surveillance data is regularly analyzed and presented in report form, with both weekly and monthly reports.

Areas that need strengthening/challenges

- Data should be integrated, from the laboratories to the IDSR, to increase data quality and decrease delays. This will also improve the flow of information from the laboratories back to district level.
- Data is collected, but is not always used for decision making and planning.

D.2.4 Syndromic surveillance systems - Score 4

Strengths/best practices

- Syndromic surveillance is in place under the IDSR for the following syndromes: acute flaccid paralysis (AFP); acute viral hemorrhagic fever syndrome; influenza-like illness (ILI); and severe acute respiratory illness (SARI).

Areas that need strengthening/challenges

- Sentinel surveillance is not in place at health care facilities for priority syndromes such as ILI.

Reporting

Introduction

Health threats at the human-animal-ecosystem interface have increased over the past decades, as pathogens 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 disease.

Target

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

Lesotho level of capabilities

Lesotho's national IHR focal point (NFP) is sited within the Office of the Director General of Health, a location that allows for reporting and dissemination of information on infectious disease outbreaks and public health events both to and from WHO.

Information on outbreaks gathered at local level is transmitted through the districts to the national level. Verification of reports occurs at the lower levels, including at resource centres.

The animal health sector has OIE delegates. Information sharing between the animal and human health sectors is generally weak, except during outbreaks. Lesotho has never reported any potential PHEIC to WHO.

IDSR is the strategy for routine and mandatory reporting, with standard forms/tools used to collect and report data. There are surveillance structures at all levels, from community to national level, and reporting is paper-based from the health facilities to the district level. However, from the district level upwards, reporting is electronic, and is done through DHIS2, a web-based district health information management system. Pilot schemes are currently ongoing in two districts to run data entirely in electronic form from the health facilities up to the national level. Following that, all districts have been given electronic devices for data capturing at all facilities, to improve on reporting.

Staff involved in reporting include 10 IDSR focal points, information officers, and data clerks.

Low timeliness and completeness rates are the main challenges affecting reporting.

Recommendations for priority actions

- Train IHR NFPs and OIE delegates using the formal learning packages offered by the respective organizations.
- Undertake simulation exercise(s) on coordination in response to a potential PHEIC, and reporting to WHO.
- Establish an MOU between the Ministry of Health and the Ministry of Agriculture and Food Security (MAFS) to improve collaboration and data sharing.
- Improve on timeliness and completeness of reporting.

Indicators and scores

D.3.1 System for efficient reporting to WHO, FAO and, OIE - Score 2

Strengths/best practices

- Operational focal points exist for the IHR (in the MOH) and OIE (in the MAFS).
- Bilateral arrangements are in place to aid cross-border, cross sectoral coordination, including cross-border meetings with South Africa. MAFS holds quarterly meetings with counterparts in South Africa on issues concerning livestock and livestock products. There is also a Liaison Committee, meetings of which are arranged by Heads of Border Agencies in both Lesotho and South Africa.
- Although Lesotho has made no report of a potential PHEIC, there have been informal consultations under IHR Article 8.

Areas that need strengthening/challenges

- There is need for further training of the IHR NFP and the OIE delegate.
- Collaboration between human and animal health should be strengthened.
- Reporting from lower levels is not always timely.
- There is no formal bilateral exchange with other IHR NFPs outside of ad hoc meetings that are organized outside Lesotho.
- There are no mechanisms in place for public health, animal health and food security authorities to make decisions on reporting.

D.3.2 Reporting network and protocols in country - Score 2

Strengths/best practices

- Preparedness and collaborative measures have been undertaken in the past—for example in response to the threat of Ebola.
- Involvement of political leadership in supporting public health is demonstrated by the production of cabinet papers—for example, in preparedness activities during the Ebola epidemic, when the country imposed restrictive measures at all ports of entry.
- Protocols are available for OIE reporting.
- Ebola emergency preparedness plans have been developed.
- Disease-free letters have been issued for travellers.
- Disease guidelines have been developed for H1N1 and cholera.

Areas that need strengthening/challenges

- Simulation exercises are not being conducted.
- Reporting processes and protocols are present under IDSR, but the country does not have protocols and/or SOPs for reporting to WHO.
- Legislation is not available to support reporting to WHO/FAO/OIE.

Workforce development

Introduction

Workforce development is important in order to develop a sustainable public health system over time. A highly qualified public health workforce should be developed and maintained with appropriate technical training, scientific skills and subject matter expertise.

Target

State Parties to have skilled and competent health personnel for sustainable and functional public health surveillance and response at all levels of the health system, and the effective implementation of the IHR (2005). Workforce should include physicians, veterinarians, biostatisticians, laboratory scientists and farming/livestock professionals, with an optimal target of one trained field epidemiologist (or equivalent) per 200 000 population. This workforce should cooperate systematically to meet relevant IHR and Performance of Veterinary Services core competencies.

Lesotho level of capabilities

The MOH human resources (HR) department is mandated to ensure proper management of staff within the Ministry. It is charged with workforce planning, recruitment, development, motivation and retention of staff to maximize the achievement of the ministry's goals. In carrying out these functions, it serves as a custodian of the laws and policies that govern public officers. Lesotho has a National Health Workforce Strategy (covering the period 2005-25), although this strategy has not been reviewed, and a staff retention strategy (2012).

The Human Resources Information Management System (HRIS) should be an important tool used to manage MOH staff data; but staff information in the HRIS database has not been updated, and it was not possible for the JEE team to get information on the distribution of health workers.

Lesotho has HR capacity at all levels, which includes: clinicians; information officers; veterinarians; economists; psychologists; laboratory technicians and specialists; public health personnel; pharmacists, and pharmacy technicians. There is a clear career progression for all cadres.

For better retention of health workers, Lesotho provides a housing allowance for medical doctors, and pays hardship allowances for all health staff in designated areas. Despite these measures, staff turnover is high.

For pre-service education, Lesotho has one university that trains nurses, environmental health officers and nutritionists at degree level; and pharmacists on a five-year honours programme. In addition, there are five nursing schools providing training at certificate and diploma levels. There is also an agricultural college that trains technicians.

There is no field epidemiology training programme (FETP) in the country. Health workers with Masters of Public Health qualifications usually provide epidemiological capacity when required.

Recommendations for priority actions

Conduct a thorough inventory of existing workforce capacity.

- Establish training in basic epidemiology (frontline FETP course) for staff in the MoH and MAFS.
- Prepare and sign bilateral agreements with neighbouring countries for longer-term training in field epidemiology (advanced FETP).

- Review the HR strategic plan, taking into account the core capacities required under the IHR (2005).

Indicators and scores

D.4.1 Human resources are available to implement IHR core capacity requirements - Score 1

Strengths/best practices

- Lesotho has a public service establishment list for all sectors. Line ministries submit their established positions to the Ministry of Public Services.

Areas that need strengthening/challenges

- There are no epidemiologists in the Ministry of Health or the Ministry of Agriculture.
- The establishment list is outdated.

D.4.2 Field epidemiology training programme or other applied epidemiology training programme in place - Score 1

Strengths/best practices

- Graduates of public health provide epidemiological capacity at different levels of the health system.

Areas that need strengthening/challenges

- Lesotho has no field epidemiology training programme.

D.4.3 Workforce strategy - Score 2

Strengths/best practices

- A human resources development and strategic plan for 2005-2025 is in place and being implemented.
- Career pathways are addressed in the workforce strategy.
- The 2012 retention strategy is being implemented.
- Incentives are available for staff in selected districts and cadres.

Areas that need strengthening/challenges

- The workforce strategy should be reviewed.

RESPOND

Preparedness

Introduction

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

Target

Preparedness includes the development and maintenance of national, intermediate and local or primary response level public health emergency response plans for relevant biological, chemical, radiological and nuclear hazards. These will cover mapping of potential hazards, identification and maintenance of available resources—including national stockpiles—and the capacity to support operations at intermediate and local or primary response levels during a public health emergency.

Lesotho level of capabilities

The Disaster Management Authority (DMA) of Lesotho is a large committee, chaired by the DMA Chief Executive, and mandated under Act No 2 (1997) to coordinate emergency responses in the country. The DMA has five thematic working groups: executive; health and nutrition; water and sanitation; agriculture and food security; and logistics. These working groups address training, disaster risk reduction, and preparedness and response planning. The health and nutrition working group comprises representation from the MoH, MAFS, and the Ministry of Defence.

Lesotho has no national multi hazard public health emergency preparedness plan. Such a plan needs to be developed and implemented, based on the outcomes of national level vulnerability and capability assessments and risk mapping.

Lesotho need not, however, start from zero, as they have developed a multi hazard contingency plan for 2014-2015 that incorporates risk assessment, issues of public health hazards, and the management and coordination of public health response activities at national and district levels.

The MoH has also developed a national contingency plan for emergencies, which includes risk analyses for four selected hazards: water- and food-borne epidemics; heavy snowfall; anthrax epidemics; and structural fires. Disease-specific plans are also in place, such as the national emergency and preparedness plan for Ebola.

Lesotho also has capacities for risk mapping, and has conducted a number of useful activities mapping risks, vulnerabilities and capabilities for neglected tropical diseases.

These plans and risk analyses together comprise a foundation for the new national multi hazard plan.

Recommendations for priority actions

- Conduct a vulnerability risk assessment and mapping exercise.
- Develop and implement a national multi hazard public health emergency preparedness and response plan that meets current IHR requirements, and which is based on the results of the risk assessment.

Indicators and scores

R.1.1 Multi hazard national public health emergency preparedness and response plan is developed and implemented - Score 1

Strengths/best practices

- Lesotho has capabilities and resources on which to build, even if the national multi hazard public health emergency preparedness and response plan is not in place. These include:
 - Lesotho multi hazard contingency plan 2014-2015;
 - National contingency plan for emergencies (health sector chapter), 2009;
 - Disease-specific national emergency and preparedness plan for Ebola.

Areas that need strengthening/challenges

- Lesotho requires a national multi hazard public health emergency preparedness and response plan that meets the requirements of the IHR (2005).

R.1.2 Priority public health risks and resources are mapped and utilized - Score 1

Strengths/best practices

No real strengths were identified, since no mapping has been done. Risk analysis has, however, been conducted for water-and food borne epidemics, heavy snowfall, anthrax epidemics and structural fires. This indicates the presence of capabilities on which to build.

Areas that need strengthening/challenges

- A national public health risk and resource mapping exercise should be performed, addressing IHR-relevant hazards and priority risks.

Emergency response operations

Introduction

A public health emergency operations centre (PHEOC) 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 responses to emergencies, or during emergency exercises. They also provide other essential functions to support decision-making and implementation, coordination and collaboration.

Target

Country has capacity for: a public health emergency operations centre functioning according to minimum common standards and maintaining trained, functioning, multisectoral rapid response teams; real-time biosurveillance laboratory networks; information systems; and trained PHEOC staff capable of activating a coordinated emergency response within 120 minutes of the identification of a public health emergency.

Lesotho level of capabilities

Emergency responses in Lesotho are coordinated by the Disaster Management Agency (DMA).

Lesotho has district level disaster management teams (or rapid response teams), consisting of disaster management agency staff, UN agency staff, and partners, who conduct assessments and coordinate local response activities. These teams include doctors, nurses, pharmacists and laboratory personnel. Similar bodies are found in MAFS, although these are not well structured.

The UN Office for the Coordination of Humanitarian Affairs (UNOCHA) has conducted training on incident management and the running of an emergency operations centre (EOC), including the roles and responsibilities of the various functions within the EOC.

Lesotho has no permanent EOC structure, although a physical space is available. This space currently lacks equipment, and in particular communications equipment. There is no public health emergency operations centre. There is no incident management structure, nor are there any of the protocols and procedures that would accompany it.

In emergency responses, the procedures outlined in Lesotho's Disaster management manual are followed. This manual covers the roles of the police and military, and would benefit from a review covering the roles and responsibilities of all agencies involved in emergency response. Coordination of relevant agencies is currently conducted through the mutual goodwill of the parties involved, and formalization of the coordination protocols is advised.

Case management guidelines are available for only two out of nine priority epidemic diseases. There are no SOPs available for managing and transporting potentially infectious patients in the community and/or at points of entry.

No EOC plans or procedures have been developed. Simulation exercises have been conducted. The most recent was a simulation at a hospital using a transport accident scenario. The hospital was testing its functioning in the management of mass casualty incidents. While this simulation produced a report, there was no evaluation of the outcomes, nor were any action plans made to address areas that needed strengthening. The Department of Aviation also conducts simulation exercises for airport staff.

Recommendations for priority actions

Revise the Disaster management manual to include coordination protocols for all relevant agencies.

- Establish a public health emergency operations centre, together with all necessary guidelines for its operationalization.
- Develop and disseminate case management guidelines and SOPs for epidemic-prone diseases.
- Implement a training and advocacy programme for incident management systems within the Disaster Management Authority, the MoH, MAFS, and associated agencies with responsibilities in emergency management.

Indicators and scores

R.2.1 Capacity to activate emergency operations - Score 1

Strengths/best practices

- There is a physical structure that can be used as an EOC by the DMA.
- The DMA has a Disaster management manual that outlines protocols and procedures.

Areas that need strengthening/challenges

- There is a need to determine thresholds for the activation of the National EOC.

R.2.2 Emergency operations centre operating procedures and plans - Score 1

Strengths/best practices

- Emergency procedures and plans are available in the DMA multi hazard contingency plan 2014-2015.

Areas that need strengthening/challenges

- There is a need to improve multi-sectoral collaboration between the DMA and other stakeholders during the development of DMA operating plans and procedures.

R.2.3 Emergency operations programme - Score 1

Strengths/best practices

- Despite not having plans and procedures, Lesotho has been able to conduct exercises, both at the airport and in hospitals. This experience will be useful in planning future simulation exercises.

Areas that need strengthening/challenges

- Relevant documents and procedures should be sourced or developed for simulation exercises and for coordination of the EOC. WHO has published guidelines for exercises and a framework for public health emergency operations centres.

R.2.4 Case management procedures are implemented for IHR relevant hazards - Score 2

Strengths/best practices

- IDSR technical guidelines, adapted in 2011, are in place.
- Case management guidelines are available for two outbreak-prone priority diseases.
- Relevant trained staff are available for the case management of priority diseases.

Areas that need strengthening/challenges

- Standard operating procedures and case management guidelines are unavailable for some epidemic-prone priority diseases.
- There is a need to develop guidelines for patient referral and transportation mechanisms.

Linking public health and security authorities

Introduction

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

Target

In the case of a biological event of suspected or confirmed deliberate origin, a country should be able to conduct a rapid, multisectoral response, with the capacity to link public health and law enforcement, and to provide and/or request effective and timely international assistance (for example, to investigate instances of alleged use).

Lesotho level of capabilities

Lesotho has an MOU in place between the Ministry of Health and the Ministry of Defence and National Security that facilitates coordination between the two ministries in the event of an emergency. The two ministries conduct joint training and simulation exercises to strengthen the coordination mechanism. The last simulation exercise was between the MoH and the Fire and Rescue Department, and was based on a mass casualty event.

There is also an MOU between the Heads of Border Agencies (HOBA) that covers the Lesotho Revenue Authority, the National Security Services, the Ministry of Agriculture and the Police (fire and rescue services fall under the jurisdiction of the Police). The four agencies covered under the MOU meet on a monthly basis and share information from these and other ministries (such as Health, Defence, and Home Affairs). There is, however, no regular information sharing mechanism outside these meetings.

At district level, Lesotho has multi-sectoral emergency preparedness and response teams, formalised under the IDSR Guidelines. These teams include security and police, as well as personnel from the health, environment and other sectors.

In an emergency within Lesotho, the Disaster Management Authority (DMA) protocols are used to trigger a response and to share information. The working groups of the DMA hold quarterly meetings, and the contact lists and minutes of the meetings at district and national levels are shared with the working group.

There is a business continuity plan within the Ministry of Health, and SOPs are laid out in the Disaster management manual. However, neither of these documents is up to date.

Recommendations for priority actions

- Review the Business Continuity Plan and the Disaster management manual to bring both up to date, and to develop functional standard operating procedures.
- Disseminate contact details for national and district points of contact to all ministries associated with emergency response.
- Develop information sharing mechanisms to ensure all relevant information relating to emergency risk and events is regularly shared and disseminated.

Indicators and scores

R.3.1 Public health and security authorities (e.g. law enforcement, border control, customs) are linked during a suspect or confirmed biological event - Score 4

Strengths/best practices

- There is an MOU in place between the MoH and the Ministry of Defence and National Security.
- Training on joint investigation and response is conducted between the Ministry of Health and the Ministry of Defence and National Security.

Areas that need strengthening/challenges

- While an MOU is in place, other ministries and departments, and particularly those responsible for fire and rescue services, should be included in the relevant coordination meetings.
- There is a need to develop standard operating procedures for coordination, risk assessment and response during an emergency.

Medical countermeasures and personnel deployment

Introduction

Medical countermeasures are vital to national security. They protect nations from potentially catastrophic infectious disease threats. Investments in medical countermeasures create opportunities to improve overall public health. It is also important to have trained personnel who can be deployed in case of a public health emergency for response.

Target

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

Lesotho level of capabilities

The National Drug Supply Organization (NDSO) is the authority mandated to distribute drugs and medical supplies throughout Lesotho. Some supplies are held at national level, including vaccines for yellow fever and rabies, but there is a bottom-up system for distributing drugs to health care facilities (although this is not formalised). Some drug stock-outs occur at district health facilities.

As Lesotho's rugged terrain means many risk assessments and emergency responses use air transport to reach isolated areas, there is a pharmacy at the airport that holds emergency supplies of drugs. In emergencies, supplies can be commandeered from health facilities in the districts, and then replenished through the National Drug Supply Organization.

Emergency funds are available through the Ministry of Finance, and can be accessed quickly in the event of an emergency—there are procedures for activating a fast-track mechanism to access these funds.

Staff within Lesotho can be easily mobilized in an emergency, although there is no formalised agreement or mechanism for this; nor are there any agreements for the deployment of external health care professionals should the need arise. This may be possible under agreements within the Southern African Development Community (SADC), as there are MOUs with the SADC to cover health emergencies. There is also an MOU with South Africa that covers laboratory equipment and personnel.

In the animal sector, animal health countermeasures are supplied through MAFS, and additional animal health countermeasures can be purchased on the open market. Reciprocal arrangements are in place with South Africa for mobilizing veterinary staff.

Recommendations for priority actions

- Investigate mechanisms for deploying non-registered medical countermeasures (e.g. new vaccines or treatments), in both the animal and health sectors, for use in emergencies.
- Develop protocols for fast tracking supplies of medical countermeasures from the National Drug Supply Organization in the event of an emergency.

Indicators and scores

R.4.1 System is in place for sending and receiving medical countermeasures during a public health emergency - Score 1

Strengths/best practices

- Lesotho has a National Drug Supply Organization, with a mandate to supply medical countermeasures throughout the country.

Areas that need strengthening/challenges

- There is no mechanism for fast-tracking medical supplies in the event of an emergency.
- There is no protocol in place that enables Lesotho to use non-registered treatments or vaccines in the event of an emergency.

R.4.2 System is in place for sending and receiving health personnel during a public health emergency - Score 1

Strengths/best practices

- Trained human resources are available within Lesotho and can be mobilized for risk assessment and response.

Areas that need strengthening/challenges

- The mechanisms for requesting and receiving international health professionals are unclear, and should be identified and reviewed to ensure formal mechanisms are in place to mobilize external support in the event of an emergency.
- Personnel within Lesotho who have responsibility for emergency response should be encouraged to support other countries' responses, to gain and share experience with national counterparts.

Risk communication

Introduction

Risk communication should be a multilevel, multifaceted process that helps 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 disseminating information to the public about health risks and events, such as disease outbreaks. For communication about risk to be effective, the social, religious, cultural, political and economic effects of the event should be taken into account—including the voice of the affected population.

Communications of this kind promote appropriate prevention and control action through community-based interventions at individual, family and community levels. Disseminating information through appropriate channels is essential. Communication partners and stakeholders 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

States Parties should have risk communication capacity that includes multilevel, multifaceted real-time exchange of information, advice and opinion between experts and officials and people who face a threat or hazard to their survival, health or economic or social wellbeing. This information should enable them to take informed decisions to mitigate the effects of the threat or hazard, and to take protective and preventive action). It should consist of a mix of communication and engagement strategies such as media and social media communication, mass awareness campaigns, health promotion, social mobilization, stakeholder engagement, and community engagement.

Lesotho level of capabilities

Lesotho has no formal government multi hazard risk communication strategy.

During disasters or outbreaks, the government uses spokespersons from the Ministry of Communication, MOH and MAFS to send risk information to the public and relevant stakeholders using the media (radio, TV, newspapers, etc.). There is also a system in place for deploying communication officers at the district and national levels for risk communication during public health emergencies. Further informal arrangements are in place for engaging the population at community level during emergencies, via the media and through engagement with community leaders. Health promotion activities are conducted at community level.

Lesotho has no coordination platform or mechanism for internal and partner communications, but informal coordination does take place around communication during public health emergencies, as evidenced by recently outbreaks of anthrax and other animal disease, and during the 2016 drought.

The country has an ad hoc system for management of rumours and misinformation, as evidenced during a recent measles and rubella immunization campaign.

Recommendations for priority actions

- The Ministry of Communication should develop a multi hazard national risk communication strategy that is subsequently contextualized to issues specific to various ministries, and allocate sufficient budget for its implementation.

- Strengthen mechanisms for monitoring and managing rumours and misinformation.

Indicators and scores

R.5.1 Risk communication systems (plans, mechanisms, etc.) - Score 1

Strengths/best practices

- A risk communication team is in place and functional, staffed by qualified personnel trained in a satisfactory manner.

Areas that need strengthening/challenges

- Communications staff should receive regular training.
- A multi hazard risk communication strategy is required.
- Communications personnel and others should engage in the use of social media, to achieve wider communications coverage during emergencies.

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

Strengths/best practices

- Informal communication processes are in place, both inside and outside the MOH.

Areas that need strengthening/challenges

- Although communication processes exist, they do not efficiently assist the implementation of communication responsibilities across all sectors because they are informal in nature.

R.5.3 Public communication - Score 3

Strengths/best practices

- Public health communication mechanisms are in place across all sectors.

Areas that need strengthening/challenges

- There are no resources for media research to analyse messages delivered to the public.
- There is a need to diversify communication strategies during emergencies, so that all possible communication outlets are used.
- Communications should be issued in local languages, to increase audience coverage and effectiveness.

R.5.4 Communication engagement with affected communities - Score 1

Strengths/best practices

- Community engagement processes for social mobilization and health promotion are in place across sectors.

Areas that need strengthening/challenges

- There are no regular community outreach programmes conducting risk communication.

R.5.5 Dynamic listening and rumour management - Score 2

Strengths/best practices

- Capacity is in place to address rumours and misinformation.

Areas that need strengthening/challenges

- Lesotho has no formal communication strategies to monitor and address rumours and misinformation.

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 the 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 also designate ground crossings as points of entry). These should implement specific public health measures 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, designated ground crossings), which implement specific public health measures to manage a variety of public health risks.

Lesotho level of capabilities

Lesotho is a fully landlocked country, surrounded entirely by South Africa. All international commercial flights come from South Africa, giving Lesotho unique obligations at its various points of entry.

The country has 12 official points of entry, of which one international airport and eight ground crossings have been designated for implementation of the IHR (2005). There is no public health emergency and contingency plan at the points of entry; one should be developed, along with a referral system and accompanying SOPs.

Lesotho has trained personnel to conduct IHR-related activities at points of entry, but in inadequate numbers. Port Health staff do not operate a 24-hour system, and are absent from their posts after 4:30 pm.

Quarantine facilities exist at Caledon and Tele, but not at relatively busier points of entry such as the international airport and Maseru Bridge.

Public health events identified at points of entry are immediately reported to district health authorities, but effective evacuation of ill travellers to referral health facilities is challenging. Port health guidelines are in draft form, and need to be adopted formally.

Recommendations for priority actions

- Review the 2011 situational analysis and needs assessment plan and implement the relevant outstanding activities.
- Establish a referral system in designated points of entry, with accompanying guidelines.
- Establish and implement a vector control programme.

- Train and deploy qualified personnel adequate to conduct screening and response to emergencies at points of entry.
- Develop an integrated national public health emergency contingency plan for points of entry.

Indicators and scores

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

Strengths/best practices

- Designated clinics are in place at some points of entry (Maseru International Airport, Maseru Bridge and Maputsoe).
- Draft guidelines on port health are available.
- Multi-sectoral preparedness and response teams are in place at national and district levels.
- Staff at Maseru Bridge hold cross-border meetings with their counterparts in South Africa.

Areas that need strengthening/challenges

- Adequate qualified personnel should be deployed to busy points of entry, 24/7.
- Referral health facilities should be identified for all designated points of entry.
- Integration of reporting from points of entry into the IDSR should be strengthened.

PoE.2 Effective public health response at points of entry - Score 1

Strengths/best practices

- Public health emergency rapid response teams are available at district level.

Areas that need strengthening/challenges

- SOPs should be developed, based on the as yet nonexistent public health emergency contingency plan, with full integration of all points of entry stakeholders.
- There is a need for periodic simulation exercises for points of entry, again based on the as yet undeveloped public health emergency contingency plan.

Chemical events

Introduction

States Parties should have 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.

Target

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

Lesotho level of capabilities

While the Department of the Environment (Ministry of Tourism, Environment and Culture) is the principal government agency overseeing issues relating to chemical events in Lesotho, activities relating to prevention, detection and response fall under the responsibility of several stakeholders. The key sectors are health; environment; trade and industry; transport; agriculture; and mining.

The management of chemical events is done according to the Constitution and the Environment Act 2008. Under the Environment Act, a 'chemical' can be manufactured or derived from nature, and includes industry chemicals, pesticides and fertilizers.

Lesotho has a Toxic and Hazardous Chemicals Management Bill (2017), although this does not yet have the status of law.

Lesotho has no large chemical industry, and there have been no reports of any large-scale chemical events. The most common events are tanker spills, which have their own control mechanisms: truck drivers are trained to handle these instances (presuming they are not injured during the spill), and the trucks contain toolkits to arrest pollution during the time it takes the response team to arrive from elsewhere.

Lesotho has only limited national guidelines, manuals or policies for chemical event preparedness and response. Surveillance is not done fully; instead, there is monitoring and inspection. There are no accredited laboratories in Lesotho that can do detailed analysis of chemical events. There is a Chemicals Management Committee, but this is not yet fully functional. Currently Lesotho has no poison centres, and people are often unsure where and how to report acute chemical incidents. Reports at health facilities do not allow traceability, and are not included in the surveillance system. There are anecdotal reports of poisonings due to home-brewed alcohol.

Recommendations for priority actions

- Promulgate the Toxic and Hazardous Chemicals Management Bill into law.
- Review the feasibility of establishing a fully functional poison centre within the health system, and investigate mechanisms for providing hotlines to a poisons centre, through agreements with neighbouring countries.
- Provide a basis in law for the mechanisms for coordinating responses to chemical events.
- Develop an appropriate surveillance programme, with manuals, guidelines and policies for chemical events surveillance and response.

- Consider reviewing and including chemical events and poisonings in the IDSR system, once the IDSR Technical guidelines (3rd edition) has been finalized and disseminated by the WHO African Regional Office.

Indicators and scores

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

Strengths/best practices

- A legal framework is available for development of chemicals legislation, albeit in Bill form.

Areas that need strengthening/challenges

- The current chemicals management programme is focused on the industrial management of chemicals, with limited programming for the public health aspects.
- There are no working tools for surveillance and management of chemical events.
- Environmental surveillance for chemicals is limited to water and does not include other matrices such as air, soil, deposition, or vegetation.
- There are no documented procedures for risk assessment in chemicals surveillance or monitoring.
- Lesotho has no accredited laboratories for surveillance and analysis of public health events due to chemical exposures.
- Lesotho has limited capacity for chemical surveillance.
- Lesotho has no poison centres, and there is no access to poisons information or hotlines.

CE.2 Enabling environment is in place for management of chemical events - Score 1

Strengths/best practices

- Lesotho has a Toxic and Hazardous Chemicals Management Bill (2017), which is yet to be enacted into law
- Coordinating mechanisms for chemicals management are in place.
- A contingency fund is available for emergencies.

Areas that need strengthening/challenges

- The Toxic and Hazardous Chemicals Management Bill should be promulgated into law.
- The institutions mandated to coordinate responses to chemical events should be recognised in law, and given the requisite legal authorities.
- There is a need for baseline information and a database on chemical management (currently none exists).

Radiation emergencies

Introduction

State Parties should have surveillance and response capacity for radionuclear hazards/events/emergencies. This requires effective communication and collaboration among the sectors responsible for radionuclear management.

Target

State Parties should have surveillance and response capacity for radionuclear hazards/events/emergencies, with effective communication and collaboration among the sectors responsible for radionuclear management.

Lesotho level of capabilities

Lesotho is a signatory to the International Atomic Energy Agency (IAEA) statute and has adopted, and applies, the organization's standards for radiation safety for the protection of health. The IAEA has regulations across six areas of work, with which Lesotho is obliged to comply.

Radiation emergencies are not covered under Lesotho's National Contingency Plan for Emergencies. In the 2011 IHR capacity assessment, Lesotho was assessed as having no capacity in this area.

The Ministry of Foreign Affairs is the country's coordinating body for radiation affairs. It holds meetings with members of the security sector, and facilitates the engagement of staff in trainings conducted by the IAEA.

Most of the country's sources of ionizing radiation fall under the management of the Ministry of Health. There are no regulations governing the use and safety of X-ray capabilities, and staff exposure is not monitored with dosimetry meters. Private companies using radioactive sources need to comply with the Department of the Environment's 2008 Bill on compliance.

The police force is being trained in the management of radiation emergencies, and would be mobilized for any emergencies in this area.

There is a 2017 Radiation Protection Bill, which is yet to be enacted.

Recommendations for priority actions

- Conduct a situational analysis and needs assessment for managing potential radiation emergencies.
- Establish minimum standards for the protection of health workers who use ionizing radiation sources, including through exposure monitoring.

Indicators and scores

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

Strengths/best practices

- Lesotho has a 2017 Radiation Protection Bill.
- Staff have been trained in the management of radiation emergencies.
- There is a coordinating body for radiation within the Ministry of Foreign Affairs.

Areas that need strengthening/challenges

- The Radiation Protection Bill has not been enacted.
- There is no regular monitoring of staff who use ionizing radiation at work.
- Radiation poisoning has not been included in the IDSR guidelines. This should be done once the Regional IDSR guidelines (3rd edition) are disseminated by the WHO Regional Office for Africa.

RE.2 Enabling environment is in place for management of radiation emergencies - Score 1

Strengths/best practices

- There is a coordinating body within the Ministry of Foreign Affairs that is responsible for radiation emergencies.

Areas that need strengthening/challenges

- A training needs assessment should be conducted for all stakeholders.
- A mechanism should be developed for the coordination of radiation emergencies with the Disaster Management Authority, and included in an all hazards response plan.

Appendix 1: JEE Mission Background

Mission place and dates

Maseru, Lesotho, July 10-14 2017

Mission team members:

- Charles Njuguna (Team Lead), Health Security and Emergency Cluster Coordinator a.i, Team Lead IDSR & IHR, WHO Country Office for Sierra Leone
- Mohamed Ally Mohamed (Team Co-lead), Director, Health Quality Assurance Department, Ministry of Health, United Republic of Tanzania
- Michael Adjabeng, IHR National Focal Person, Ghana
- Franklin Asiedu-Bekoe, Head of Disease Surveillance Department, Ghana Health Service
- Sofonias Asrat, technical officer, health systems, WHO Ethiopia
- Guillaume Belot, Veterinary Epidemiologist, WHO consultant
- Lisa Brouwers, Head of Unit, Public Health Agency of Sweden
- Sabiha Essack, South African Research Chair in Antibiotic Resistance & One Health, University of KwaZulu-Natal
- Faiqa Kassim Ibrahim, Technical Officer, Risk Assessment, Country Preparedness and IHR, WHO Regional Office for Africa
- Mark Nunn, independent technical writer & editor
- Adrienne Rashford, Technical Officer, Core Capacity Assessment, Monitoring & Evaluation, WHO Headquarters
- Herbert Schneider, OIE consultant and retired farmer

Objective

To assess Lesotho's capacities and capabilities relevant to the 19 technical areas of the JEE tool for providing baseline data to support Lesotho'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

- Lesotho's self-assessment documents were delivered to the external experts approximately two weeks prior to the JEE mission.
- On the Sunday before the JEE meetings began, the JEE external experts met to discuss the format and objectives for the JEE, and review the agenda.

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 an audit. Information provided by Lesotho will not be independently verified but will be discussed and the evaluation rating mutually agreed to by Lesotho and the evaluation team. This is a peer-to-peer review.

Key host country participants and institutions

| NAME | INSTITUTION | POSITION |
|-------------------------------|--|---|
| Mr. Palo Adotsi | Lesotho Defence Force | Pharmacy Assistant |
| Mr. Lipotso Beleme | Civil Aviation | Terminal Services Officer |
| Mrs. Lula K. Budiaki | Ministry of Health – Central Reference Laboratories | Principal Laboratory Technician |
| Ms. Nomawethu Dlangamandla | Civil Aviation | Assistant Airport Manager |
| Mr. Mohlakola Hlabana | World Health Organization - Lesotho | Health Security and Emergency Focal Point |
| Ms. Mahali Hlasa | Riders for Health | Country Director |
| Dr. Richard Kabuya | Ministry of Health | Medical Officer |
| Ms. Keketso Lekatsa | Prime Minister's Office – Food and Nutrition Coordination Office | Programme Officer |
| Dr. Moselinyane Letsie | Ministry of Health – Disease Control | Director Disease Control |
| Mr. Mohau Mabote | National Security Service | Maseru District Officer |
| Mrs. Selloane Maepe | WHO | EPI Programme Officer |
| Mr. Moeketsi Mafethe | Civil Aviation | Chief Fire Officer |
| Mr. Motsamai Mahahabisa | Ministry of Health – Environmental Health | Senior Health Inspector |
| Mr. Mabaleha Mahamo | Ministry of Health – Environmental Health | Paramedic |
| Mr. Khotso Mahomo | Ministry of Health – Disease Control | IHR Manager |
| Ms. Mamoabi Makara | Roma College of Nursing | Nurse Educator |
| Mr. Lehlohonolo Makatjane | Lerotholi polytechnic | SWC |
| Ms. Rethabile Makhoali-Boroko | Ministry of Law-Civil | Crown Counsel |
| Ms. Makali Maqhama | Ministry of Health – Family Health | Manager/MCL |
| Mr. Pule Moabi | SCOTT Nursing Training College | Clinical Tutor |
| Mr. Moeketsi Mohobela | Ministry of Agriculture and Food Security – Livestock Department | Laboratory Technician |
| Mrs. Ntsoaki Mokete | Ministry of Health – Disease Control | National IDSR Focal Point |
| Ms. Maseteme Mokotjomela | World Health Organization | Admin Intern |
| Ms. Mampho Monne | National Security Service | Principal Counselor |

| | | |
|--------------------------------|--|--|
| Mrs. Mateboho Mosebeka | Ministry of Health | Public Relations Officer |
| Ms. Mabusisiwe Mosito Ngakane | Ministry of Finance – Planning Unit | Assistant Economic Planner |
| Ms. Masehloho Mothibeli-Bereng | Lesotho Defence Force | Health Inspector |
| Ms. Nthekeleng Motšoane | Ministry of Health – Quality Assurance | Quality Assurance Manager |
| Mr. Habasheane Mpakoba | Lesotho Defence Force | Health Inspector |
| Mr. Thato Mxakaza | World Health Organization - Lesotho | Health Promotion Officer |
| Ms. Keletso Ntene-Sealiete | Ministry of Health – Disease Control | Surveillance Officer |
| Makhaola Koatsa | Ministry of Education and Training | Counselor |
| Ms. Tlalane Panyane | Ministry of Health – Health Education | Communications Officer |
| Mr. Sejojo Phaaroo | Ministry of Health – Disease Control | |
| Ms. Khopotso Phafoli | Disaster Management Authority | Communication Officer |
| Dr. Makhoase Ranyali-Otubanjjo | Ministry of Health – District Health Management Team Maseru | District Health Manager |
| Ms. Mosepeli Ratikane | Ministry of Health – Environmental Health | Senior Health Inspector |
| Dr. Tabitha Seeiso | Ministry of Agriculture and Food Security – Livestock Department | Director Veterinary Public Health |
| Dr. Celinah Sefako | Ministry of Health – Primary Health Care | Public Health Specialist |
| Ms. Nthabeleng Sefako | Prime Minister’s Office – Food and Nutrition Coordination Office | Senior Information Officer |
| Ms. Lizzy Sello | Ministry of Health - National Health Training College | Tutor |
| Ms. Phomolo Semata | World Health Organization | HIV/TB Intern |
| Mr. Matebele Setefane | Water Commission | Monitoring and Evaluation Coordinator |
| Ms. Tšaletseng Siimane | National University of Lesotho | Lecturer |
| Mr. Mokitimi Thekiso | Ministry of Health – Environmental Health | Senior Health Inspector |
| Ms. Rethabile Topo | Ministry of Health – Human Resource | Human Resource Manager |
| Mr. Thabo Kobeli Tšasanyane | Ministry of Tourism, Environment and Culture – Environment | Senior Environment Officer - Pollution Control |
| Mr. Thabiso Tsiane | Lesotho Mounted Police Service (Fire) | OCPs |
| Ms. Lisemelo Zachia | Ministry of Health – Disease Control | PHN-IHR |
| Mr. Sello Zakia Molefi | Lesotho Mounted Police Service (Fire) | Sub-Inspector |
| Mr. Omer Zang | World Bank | Health Economist |

Supporting documentation provided by host country

National legislation, policy and financing

- Public Health Bill of 1970
- Draft Plant Protection Policy of 2012
- Importation and Exportation of Livestock and Livestock Products Proclamation Act of 1984
- Public Health Abattoir Regulation- Legal notice No 27 of 1972
- Lesotho Government Gazette Extra-Ordinary volume XXXVI-Legal notice No 241 of 1992
- IHR Assessment report 2012

Antimicrobial resistance

- Infection Prevention and Control Plan 2016
- Infection, Prevention Policies and Procedures Manual

Zoonotic diseases

- Milk Hygiene Regulations 1973
- IDSR Guidelines
- OIE Terrestrial Animal Health Code
- OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals
- Draft Biodiversity Bill of the Ministry of Tourism, Environment and Culture
- Draft Animal Health and Animal Production Policy
- Public Health Bill of 1970
- Manuals for public health training of veterinary staff

Food safety

- IDSR Technical Guidelines
- Outbreak reports
- Public Health Bill No. 12 of 1970 and its regulations (e.g. regulations on public health, milk hygiene, abattoir management, etc.)

Immunization

- Expanded Programme of Immunization (EPI) policy
- Introduction of inactivated polio vaccine
- Field guidelines for measles and rubella supplementary immunization
- Lesotho PCV13 introduction handbook.

National laboratory system

- National Medical Laboratory Handbook
- WHO guidelines

- CLSI guidelines
- HIV testing algorithm
- OIE manual of laboratory tests for terrestrial animals 2008
- Laboratory national strategic plan
- National laboratory operational plan
- Minimum Standards for laboratories
- Lesotho IDSR technical guidelines 2012
- MOU between MOH and Riders for Health on sample transportation
- MOU between MOH and DHL
- SOPs for specimen collection and transportation
- Point of care implementation guidelines
- Public procurement regulations for 2007
- QAU laboratory supervision tool
- Assessment check list tool
- Laboratory quality indicator management form
- Certificate of registration of EQA programme
- Corrective action reports/forms
- 2011 Procedure manual for laboratory commodity management in the Kingdom of Lesotho

Real-time surveillance

- IDSR guidelines and training manual
- Weekly reporting surveillance report
- Acute flaccid paralysis training (EPI)
- Malaria training report
- Nkau diarrhoea outbreak report

Reporting

- EPR preparedness plan
- IHR operational plan
- Port health surveillance forms
- Cabinet decision paper

Workforce development

- Public service establishment list
- Human resources development and strategic plan 2005-2025
- Retention strategy 2012

Preparedness

- Lesotho multi hazard contingency plan 2014-2015 (entire document)
- National contingency plan for emergencies (health sector chapter) 2009 (risk analysis)

Emergency response operations

- Lesotho IDSR technical guidelines 2012
- Contingency plan on swine flu and influenza
- Lesotho emergency preparedness and response plan
- Linking public health and security authorities document.

Linking public health and security authorities

- The MOU between the MOH and the MOD
- Business continuity plan
- Disaster management manual
- Reports from simulation exercises

Risk communication

- Lesotho IDSR technical guidelines 2012
- RED/REC training report

Points of entry

- Port health draft guidelines
- Port health annual report (2016)
- Public Health Order (1970)
- POE screening form
- Draft phytosanitary policy 2012

Chemical events

- National Chemicals Management Profile (2010)
- Toxic and Hazardous Chemicals Management Bill 2017
- Environment Act 2008
- Labour Code
- Chemicals Safety Regulations
- Public Health Bill 1970
- Local Government Act 1997
- Chemicals Management Committee, Terms of reference and minutes
- National Climate Change Committee, Terms of reference
- Disaster Management Act



Radiation emergencies

- Draft 2017 Radiation Protection Bill