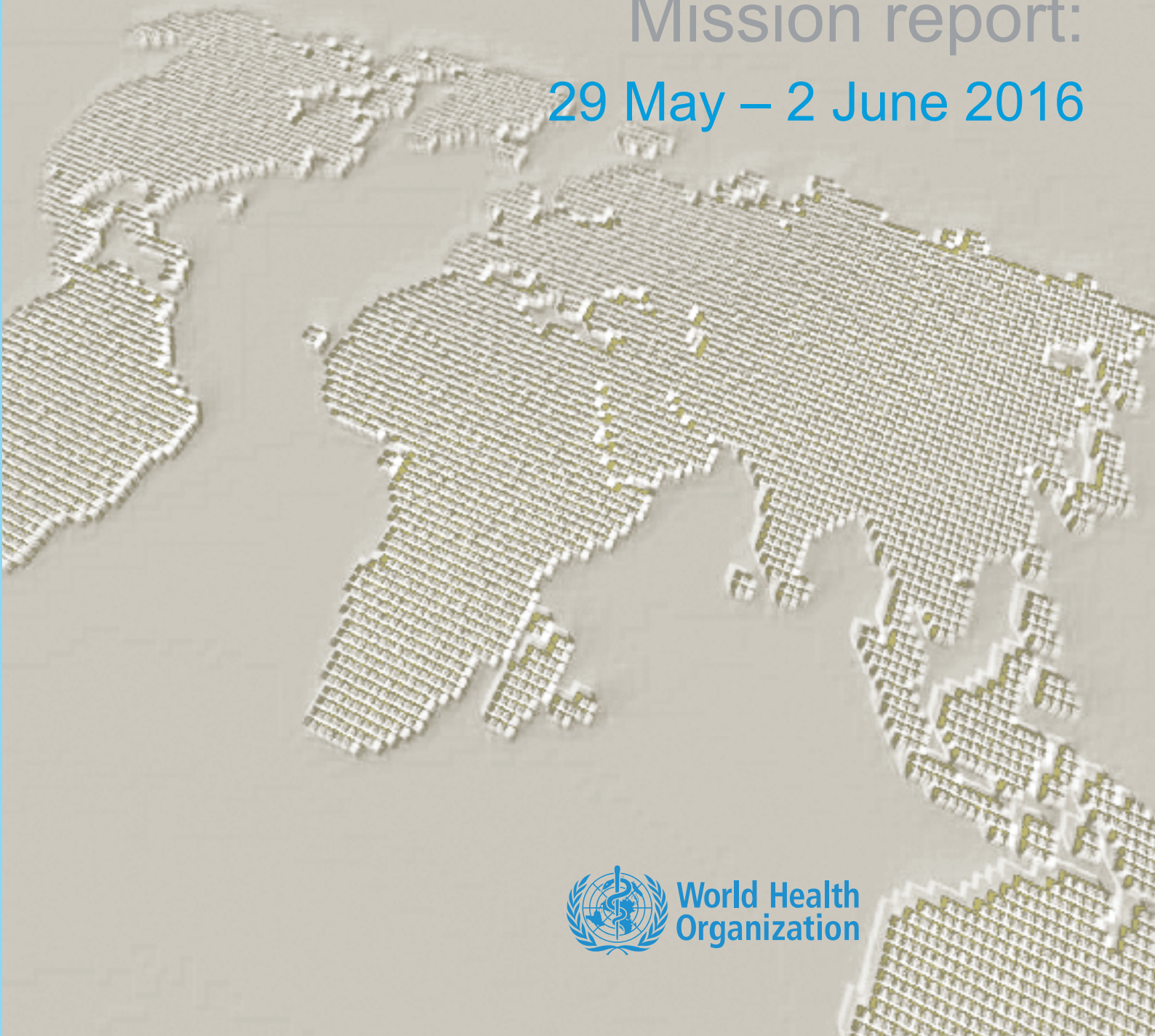
JOINT EXTERNAL EVALUATION OF IHR CORE CAPACITIES

of the

STATE OF QATAR

Mission report:

29 May – 2 June 2016



World Health Organization

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Contents

Abbreviations

AMR	antimicrobial resistance
AMS	antimicrobial stewardship
CBRN	chemical, biological, radiological and nuclear
CDC	Centre for Disease Control of the MoPH Qatar
CDD	Civil Defense Department
CFL	Central Food Laboratory
EOC	Emergency Operations Centre
EPR	Emergency Preparedness and Response Plan
FAO	Food and Agriculture Organization of the United Nations
FETP	Field Epidemiology Training Programme
FSA	Food Safety Authority
GCC	Gulf Cooperation Council
HIV	human immunodeficiency virus
HMC	Hamad Medical Corporation
IAEA	International Atomic Energy Agency
ICAO	International Civil Aviation Organization
IHR	International Health Regulations (2005)
INFOSAN	International Food Safety Authorities Network
IPC	infection prevention and control
JEE	Joint External Evaluation
MERS-CoV	Middle East respiratory syndrome coronavirus
MoME	Ministry of Municipality and Environment
MoPH	Ministry of Public Health (formerly known as the Supreme Council of Health)
NFP	National Focal Point
OIE	World Organisation for Animal Health
PEC	Permanent Emergency Committee
PHCC	Primary Health Care Corporation
PVS	Performance of Veterinary Services
RCPD	Radiation and Chemicals Protection Department
SOP	standard operating procedures
SSC	Ship Sanitation Certificates
VPD	vaccine preventable disease
WHO	World Health Organization

Executive summary – Findings from the Joint External Evaluation[1]

This joint assessment of the State of Qatar by national and external experts was conducted using the World Health Organization (WHO) International Health Regulations (2005) (IHR) Joint External Evaluation (JEE) tool. The JEE allows countries to identify the most urgent needs within their health security system; to prioritize opportunities for enhanced preparedness, detection and response capacity, including setting national priorities; and to allocate resources based on the findings. A multisectoral, international team consisting of individuals selected on the basis of their recognized technical expertise, and advisors representing international organizations carried out the mission from 27 May to 2 June 2016. Interactive technical presentations covered the self-assessment results, joint multisectoral discussions and site visits to key ministries, health-care facilities and points of entry (PoE). This report presents the recommendations for priority actions jointly developed by the external team and their Qatari peers covering the 19 technical areas of the IHR as described in the JEE tool.

Qatar has the highest per capita income in the world. The country is experiencing a rapidly developing economy, infrastructure and population growth, with a high number of migrant workers. The Qatar National Vision 2030, in particular the human development pillar, sets human health as one of the Government's top priorities. Qatari health-care governance is exercised through the Ministry of Public Health (MoPH), formerly the Supreme Council of Health. The MoPH has a comprehensive range of powers for the administration and regulation of the health-care system. It supervises the two government-owned organizations that are the country's principal health-care providers: Hamad Medical Corporation (HMC) and Primary Health-care Centres Corporation (PHCC). The MoPH also supervises all private health-care institutions, including hospitals, clinics, pharmacies, laboratories and auxiliary medical practices. Recently, the private health-care sector has increased in size and the number of services it provides.

Qatar has a special interministerial Committee for Emergency and Disaster Management as well as a National Emergency Preparedness and Response (EPR) Plan aligned to the IHR and covering all hazards, particularly biological, chemical and nuclear hazards. Chemical safety in Qatar is the combined responsibility of the Ministry of Interior, Ministry of Municipality and Environment (MoME), MoPH, Ministry of Defense, Ministry of Industry and Qatar Petroleum Corporation. Main PoE to the country include Doha international airport, Messaeid and Ras Lafan sea ports, and Abu Samra ground crossing. The country has designated a National IHR Focal Point. The Focal Point for the World Organisation for Animal Health (OIE) is established under the Animal Health Department within the MoME.

Qatar has demonstrated a very strong commitment to the global health security and core capacities required by the IHR. Globally, it is the seventh country to volunteer and complete the JEE process. The timing of the JEE is optimal considering the current rapid development of health and other sectors as well as preparations for the FIFA (Fédération Internationale de Football Association) World Cup in Qatar in 2022.

The assessment report describes Qatar's current strengths and best practices, areas that still need strengthening, technical area scores, and finally makes recommendations for priority actions for each of the 19 IHR technical areas. In addition, this summary highlights some of the most important cross-cutting themes that require attention to ensure national capacity to prevent, detect and mount a comprehensive public health response to health threats.

[1] This report will be published on the websites of the Ministry of Public Health of Qatar (www.moph.gov.qa), the World Health Organization (www.who.int) and the Global Health Security Agenda (https://ghsagenda.org).

Major cross-cutting themes

During the review of the 19 technical areas, three recurring themes emerged: multisectoral engagement to foster the One Health approach to the health security of humans, animals and food; development and coordination of national public and private sector resources; and establishment of new electronic reporting tools and registries to facilitate rapid collection, exchange and analysis of health data. These are considered overarching issues for consideration by the Government of Qatar.

1. Enhance significantly multisectoral engagement, communication and coordination of public health, animal health, food security and environment sectors. Qatar has already done significant work to build effective multisectoral collaboration and coordination as demonstrated by the Permanent Emergency Committee (PEC) and joint EPR planning. However, the existing networks and informal collaboration could be further improved by implementing a comprehensive legislative framework and formalizing the roles and responsibilities of different stakeholders. The National IHR Multisectoral Committee established by the Government and endorsed by an Amiri Decree should be reactivated. The Committee, currently with representatives from the MoPH, MoME, Ministry of Interior, Qatar Petroleum Corporation, HMC and PHCC, could be strengthened by including other sectors such as trade, transportation, tourism, commerce and maritime. Other One Health approaches that promote formal intersectoral mechanisms are needed for the response to priority zoonotic diseases, surveillance of antimicrobial resistance (AMR) and coordination of national laboratory resources. Extensive multisectoral collaboration could also enhance national capabilities related to chemical and nuclear threats as well as functions related to PoE.

2. Develop and coordinate national public and private sector resources. Qatar has very high quality health-care and laboratory facilities as well as highly skilled technical experts and workforce. Traditionally HMC and PHCC have provided the majority of services. However, the increasing role of the private sector and semi-governmental service providers, including the Qatari Red Crescent, requires clear national coordination with approved national policies and plans, such as for biosafety and biosecurity, AMR, and nominated reference laboratories and joint reporting systems. As the migrant workforce often arrives from countries with a relatively high communicable disease burden and low vaccination coverage, the public and private sectors should work together to ensure that proper screening, vaccination and treatment services are in place. Endorsement of the new food law together with the establishment of a food authority would transform the current reactive system into proactive risk analysis and management. From the human resources point of view, improved retention policies, career path planning and establishment of a Field Epidemiology Training Programme (FETP) or similar would help enhance the IHR-related capacity of public health personnel at the different administrative levels.

3. Establish new electronic reporting tools and registries to facilitate rapid collection, exchange and analysis of health data. New information technology has enabled the development of electronic patient registries covering clinical and laboratory data from all levels and sectors of the health-care system. This allows real-time surveillance and reporting activities as well as linking to other sources of data such as population and immigration registries for comprehensive analysis and studies. In terms of the JEE technical areas, new electronic systems could significantly improve vaccination coverage, surveillance of disease outbreaks and laboratory data, including AMR. Integration of different surveillance systems would serve both human and animal health.

4. Qatar's commitment to an annual self-evaluation using the JEE tool together with an external evaluation every three to five years will facilitate the development of national capabilities and resources to prevent, detect and rapidly respond to public health threats, whether occurring naturally or caused by deliberate or accidental events. Through active participation in the JEE

process, Qatar is also setting a valuable example of best practises in improving health security to other countries of the Gulf Cooperation Council (GCC) and the Eastern Mediterranean region. The priority actions identified through the JEE process, once implemented, support other international processes such as the Sendai Framework for Disaster Risk Reduction, WHO's emergency response reform and restructuring of the IHR monitoring process, the OIE Performance of Veterinary Services, and the response to international evaluations of the Ebola response.

Qatar Scores

Note on scoring of technical areas of the JEE tool

The Joint External Evaluation process is a peer-to-peer review. In completing the self-evaluation, the first step in the JEE process, and in preparation for an external evaluation, host countries are asked to provide information on their capabilities based on the indicators and technical questions included in the JEE tool.

The host country may suggest a score at this time or during the on-site consultation with the external team. The entire evaluation – in particular the discussions around the score, the strengths, areas that need strengthening, and the priority actions – should be collaborative, with external evaluation team members and host country experts seeking agreement. Should there be significant and irreconcilable disagreement between the external team and the host country experts or among the external or host country experts, the External Evaluation Team Lead will decide on the final score and this will be noted in the final report, along with the justification for each party's position.

Table 1. **Scores of Qatar against the IHR Joint External Evaluation**

Capacities	Indicators	Score
National legislation, policy and financing	P.1.1 Legislation, laws, regulations, administrative requirements, policies or other government instruments in place are sufficient for implementation of IHR	4
	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	3
IHR coordination, communication and advocacy	P.2.1 A functional mechanism is established for the coordination and integration of relevant sectors in the implementation of IHR	3
Antimicrobial resistance	P.3.1 Antimicrobial resistance (AMR) detection	3
	P.3.2 Surveillance of infections caused by AMR pathogens	3
	P.3.3 Health-care associated infection prevention and control programmes	3
	P.3.4 Antimicrobial stewardship activities	2
Zoonotic diseases	P.4.1 Surveillance systems in place for priority zoonotic diseases/pathogens	3
	P.4.2 Veterinary or animal health workforce	3
	P.4.3 Mechanisms for responding to zoonoses and potential zoonoses are established and functional	3
Food safety	P.5.1 Mechanisms are established and functioning for detecting and responding to foodborne disease and food contamination	3
Biosafety and biosecurity	P.6.1 Whole-of-government biosafety and biosecurity system is in place for human, animal, and agriculture facilities	3
	P.6.2 Biosafety and biosecurity training and practices	3
Immunization	P.7.1 Vaccine coverage (measles) as part of national programme	5
	P.7.2 National vaccine access and delivery	4
National laboratory system	D.1.1 Laboratory testing for detection of priority diseases	4
	D.1.2 Specimen referral and transport system	4
	D.1.3 Effective modern point-of-care and laboratory-based diagnostics	4
	D.1.4 Laboratory quality system	3

Real-time surveillance	D.2.1 Indicator- and event-based surveillance systems	4
	D.2.2 Interoperable, interconnected, electronic real-time reporting system	3
	D.2.3 Analysis of surveillance data	3
	D.2.4 Syndromic surveillance systems	4
Reporting	D.3.1 System for efficient reporting to the World Health Organization (WHO), Food and Agriculture Organization (FAO) and World Organisation for Animal Health (OIE)	4
	D.3.2 Reporting network and protocols in country	4
Workforce Development	D.4.1 Human resources are available to implement IHR core capacity requirements	4
	D.4.2 Field Epidemiology Training Programme or other applied epidemiology training programme in place	3
	D.4.3 Workforce strategy	3
Preparedness	R.1.1 Multi-hazard National Public Health Emergency Preparedness and Response Plan is developed and implemented	4
	R.1.2 Priority public health risks and resources are mapped and utilized	4
Emergency response operations	R.2.1 Capacity to activate emergency operations	4
	R.2.2 Emergency Operations Centre operating procedures and plans	4
	R.2.3 Emergency operations programme	3
	R.2.4 Case management procedures are implemented for IHR relevant hazards.	3
Linking public health and security authorities	R.3.1 Public health and security authorities, (e.g. law enforcement, border control, customs) are linked during a suspect or confirmed biological event	5
Medical countermeasures and personnel deployment	R.4.1 System is in place for sending and receiving medical countermeasures during a public health emergency	4
	R.4.2 System is in place for sending and receiving health personnel during a public health emergency	3
Risk communication	R.5.1 Risk communication systems (plans, mechanisms, etc.)	3
	R.5.2 Internal and partner communication and coordination	3
	R.5.3 Public communication	3
	R.5.4 Communication engagement with affected communities	3
	R.5.5 Dynamic listening and rumour management	3
Points of entry (PoE)	PoE.1 Routine capacities are established at PoE	3
	PoE.2 Effective public health response at points of entry	3
Chemical events	CE.1 Mechanisms are established and functioning for detecting and responding to chemical events or emergencies	3
	CE.2 Enabling environment is in place for management of chemical events	3
Radiation emergencies	RE.1 Mechanisms are established and functioning for detecting and responding to radiological and nuclear emergencies	3
	RE.2 Enabling environment is in place for management of radiation emergencies	3

[1] The "One Health" concept was introduced at the beginning of the 2000s. In a few words, it summarizes that human health and animal health are interdependent and bound to the health of the ecosystems in which they exist. World Organisation for Animal Health, www.oie.int/en/for-the-media/onehealth/

PREVENT

NATIONAL LEGISLATION, POLICY AND FINANCING

Introduction

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

Target

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

Qatar level of capabilities

Qatar has a legal and regulatory framework to support and enable the implementation of IHR. The legal framework includes laws and regulatory measures governing many subject areas. Overall, Qatar's current legal system provides legal instruments other than legislative measures to be approved by Parliament, such as regulations, Amiri decrees or other administrative measures adopted by the government that can provide the necessary legal foundation for IHR implementation.

However, as is the case in all countries, there will be areas for improvement for the national legal landscape to be sufficiently comprehensive to fulfil IHR. These deficiencies in laws can be and should be addressed by one or more legal instruments. The best practice to ensure a comprehensive legal framework would be to conduct a legal and regulatory assessment on all subject areas involved in the IHR to identify areas for improvement. Qatar is committed to fully implementing the IHR and has taken important steps in this direction.

[2] The NIH, as assessed by the EET, does not currently fulfil all critical tasks characteristic of a public health institute or for the implementation of essential public health measures.

Recommendations for priority actions

Taking into account the level of capabilities of Qatar and the deep involvement of the public sector to implement the IHR, the recommendations for priority actions are the following.

1. **Reactivate the IHR Committee established by the Cabinet.**

- According to Article 2 of Cabinet decision 18/2015, the specific goals of the Committee are: (a) to establish the executive plan of implementation of IHR; (b) to review and develop the preventive strategies and mechanisms required to respond to risks that could potentially threaten public health; and (c) to submit an annual report to WHO related to the implementation of the IHR.

2. **Draft a national framework law and bylaws.**

- Considering the legal provisions and annexes of the IHR to be implemented by public sector employees and private companies, a national framework law could include all the procedures required in a single legal, official document to facilitate coordination and exchange of information among all parties.

3. **Develop or review laws, decrees or Cabinet decisions to support implementation of IHR.**

- Qatar engages in significant efforts to conduct studies and to endorse laws and decrees related to aspects of the IHR, e.g. Law 8/1990 on regulation and monitoring of food intended for human consumption; Law 17/1990 on the prevention of diseases; Law 1/1985 related to animal health; and Law 14/2003 related to quarantine.
- The provisions of IHR require each State to review their national legislation and adapt it if necessary to meet the IHR provisions. Following meetings with the persons in charge, new legislation has now been drafted for food safety and related sectors (interior, environment, public health, Qatar petroleum).

Indicators and scores

P.1.1 Legislation, laws, regulations, administrative requirements, policies or other government instruments in place are sufficient for implementation of IHR

Score 4: Demonstrated capacity. Legislation, regulations, administrative requirements and other governmental instruments exist that govern public health surveillance and response, as part of the following: (a) Centre for Disease Control (CDC) Law 17/1990 Articles 3 and 4 related to health procedures to prevent communicable diseases; (b) Cabinet decision No. 18/2015 Article 6 related to the implementation of IHR 2005; (c) Law 1/1985 related to animal health and combating animal diseases (Articles 2 to 8); (d) Law 14/2003 related to the organization of quarantine (Article 6 prohibits the import of animals from countries hit by infections; (e) Law 8/1990 and Law 4/2014 related to food safety (Article 3 identifies prohibited food).

Strengths/best practices

Cabinet decision 18/2015 established the interministerial National Committee to implement the IHR in Qatar, including representatives from MoPH, Ministry of Interior, the Ministry of Environment, Hamad Medical Corporation, PHCC and Qatar Petroleum (Article 1 of Cabinet decision 18/2015).

The terms of reference of the IHR national focal point (NFP) are well defined within a well connected system. Article 6 of Cabinet decision 18/2015 provides that the National Committee shall have a focal point established by the MoPH who will act as Executive Secretary to the Committee. The specific powers of the IHR NFP will be dictated by the provisions of the IHR and include the following roles:

- implement the recommendations and decisions of the Committee and assure coordination among all parties concerned;
- cooperate with the WHO focal points directly concerned with the IHR including important and/or urgent communications on their implementation;
- notify all WHO focal points of any event occurring in Qatar that may constitute a public health emergency of international concern as well as any health measure implemented in response to such events;
- respond to WHO requests to verify reports from sources other than notifications or consultation of events that may constitute a public health emergency in the State's territory;
- cooperate with WHO to sustain the programme of intervention to avoid diseases and other health situations;
- coordinate with others administrations in the State to collect the requested information to evaluate the situation;
- supervise the implementation of IHR at PoE;
- coordinate and exchange information with the National Health Committee for Emergency and Disaster Management.

In 2012, Qatar established the National Health Committee for Emergency and Disaster Management Ministerial Decree 13/2012. This interministerial committee includes representatives of the MoPH, Hamad Medical Corporation, Qatar Red Crescent Society, Ministry of Interior, Qatar Petroleum, Qatari armed forces, PHCC, Al Ahli and Al Emadi hospitals. The Committee has specific responsibility according to Article 3 of the decree to identify and analyse health risks in the country; identify the weak points of each part of the health sector; determine the necessary requirements; elaborate the national policy to respond to emergency situations; manage the training programmes; evaluate the financial costs; propose appropriate policies and legislation to manage emergencies; coordinate with other institutions and committees; and submit a quarterly report regarding the emergency plan and other specific recommendations.

Areas that need strengthening/challenges

- The assessment of relevant legislation, regulations or administrative requirements, and other governmental instruments was carried for some laws, which are now being updated. The IHR Committee is in charge of the mission (Article 2§2). A law needs to be drafted to prevent animal infectious diseases in GCC countries with a list of notifiable diseases.
- There are cross-border agreements, protocols or memoranda of understanding with neighbouring countries with regard to public health emergencies as well as the importation of goods under GCC Standard Technical Regulation for Food Standards (new edition in press). The Executive Office of the Cabinet of the Health Ministers of GCC countries is in charge of this mission.

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

Score 3. Developed capacity. The assessment identified adjustments to be made in relevant legislation, regulations, administrative requirements, and other governmental instruments for IHR implementation. Cabinet decision No. 18/2015 on the establishment of IHR NFP and IHR Committee is in place to facilitate the implementation of IHR (Article 6§2 and 3).

Strengths/best practices

- Some laws have been (or are currently being) reviewed and updated including the public health law, food safety law, and cross-border agreements. Several committees exist by Amiri Decrees with full power authority, including the IHR NFP and Committee. Their main role is to enhance multisectoral coordination and cooperation among the related sectors (Ministry of Interior, Ministry of Environment, Ministry of Public Health, and Qatar Petroleum). A full review of all existing laws is under way.

Areas that need strengthening/challenges

- More use should be made of relevant legislation and policies in various sectors involved in the implementation of IHR. Updated legislation for food safety is being drafted (CDC Law 17/1990).
- Areas covered by national legislation other than the IHR NFP (designation and operation) fall under the PEC (established in 1998 under Article 6§10 of Cabinet decision 18/2015).
- The country ensures coordination of the legal and regulatory frameworks between sectors through the National Committee to implement the IHR (2005) (Article 1 of Cabinet decision 18/2015.

Relevant documentation

- Cabinet decision No. 18/2015 on the formation of the National Committee for implementing IHR 2005.
- Law No. 8/1990 on Regulation of monitoring of food intended for human consumption.
- Ministerial Decree No. 13/2012 related to the formation of the National Health Committee for Emergency and Disaster Management.
- Law No. 1/1985 on animal health.
- Ministerial Decree No. 13/1992 about the implementation list to Law 1/1985 on animal diseases.
- Draft law related to animal diseases in the GCC.
- Law No. 14/2003 related to quarantine.
- Decree Law No. 17/1990 about prevention of communicable diseases.

IHR COORDINATION, COMMUNICATION AND ADVOCACY

Target

The effective implementation of the IHR (2005) requires multisectoral/multidisciplinary approaches through national partnerships for effective alert and response systems. Coordination of nationwide resources, including the sustainable functioning of a National IHR Focal Point (NFP), which is a national centre for IHR (2005) communications, is a key requisite for IHR (2005) implementation. The NFP should be accessible at all times to communicate with the WHO IHR Regional Contact Points and with all relevant sectors and other stakeholders in the country. States Parties should provide WHO with contact details of NFPs, continuously update and annually confirm them.

Qatar level of capabilities

The IHR NFP is the Emergency Preparedness and Response (EPR) Department and the Public Health Department under the MoPH. The Director of the EPR Department serves as the primary IHR NFP and the Director of the Public Health Department serves as the chairperson of the IHR Implementation Committee. The IHR NFP also includes the Manager of Health Promotion and Communicable Disease and the Acting Head of Surveillance and Outbreak. The contact information of the IHR NFP representatives were provided to WHO and are continuously updated and annually confirmed. The roles and responsibilities of the IHR NFP are identified but not fully implemented.

A national IHR Multisectoral Committee has been established by the Cabinet and endorsed by an Amiri Decree. The Committee is headed by the Director of Public Health and the Director of EPR as an alternate. It includes representatives from the different units under the MoPH, MoME, Qatar Petroleum Corporation, HMC, PHCC and Ministry of Interior. Representatives from other sectors relevant for the implementation of IHR capacities such as trade, transportation, tourism, commerce, and maritime are not part of the IHR Multisectoral Committee. Technical taskforces have also been established to provide technical advice to the committee in the areas of food, chemical, nuclear and radiology safety, communicable diseases and PoE. The committee and taskforces used to meet monthly and on an ad hoc basis to follow up on the implementation of the IHR. However, after the announcement that Qatar had met IHR obligations in June 2014, they suspended their meetings.

Communication and coordination between the different stakeholders and with the IHR NFP exist but not at the same level. Informal communication and coordination seem to be strong among the public health, animal health, and food sectors but mechanisms and processes for intersectoral collaboration and communication need to be documented and standardized, and further enhanced with sectors that deal with chemical and radiation events. Coordination and communication among the public health, animal, and food sectors and with the PoE, mainly Hamad International Airport, have been tested through real-life examples and have been further enhanced. Several drills and simulation exercises were conducted to improve preparedness and coordination with sectors that deal with chemical and radiation events; however, no real life events took place to test their functionality.

The IHR NFP has the capacity to receive and share information internally, due to its senior position and involvement in the PEC. The PEC is headed by the Ministry of Interior and includes members from 16 sectors; all relevant to the implementation of IHR capacities. Information on public health events of potential international concern is usually shared during the meeting of the PEC in a timely manner. Also, timely but informal information exchange between animal and human health surveillance units, laboratories, and other relevant sectors regarding potential zoonotic risks and urgent zoonotic events is in place. These mechanisms are not documented but are being followed by practice.

Insufficient awareness about IHR was observed during the national training that took place to prepare for the joint external evaluation mission. This can be attributed to the turnover among personnel and the lack of advocacy activities about IHR and their implementation for newcomers. It also appeared that the IHR NFP and its functions were not well known to personnel at the different administrative levels of each sector.

Recommendations for priority actions

- Reactivate the IHR Multisectoral Committee and expand representation to other sectors such as trade, transportation, tourism, commerce and maritime.
- Evaluate the functionality and effectiveness of the IHR NFP.
- Develop and widely disseminate biannual reports on implementation of the IHR capacities among the relevant sectors.
- Conduct advocacy activities targeting different audiences to raise awareness and obtain commitment of the different sectors for developing IHR capacities.
- Develop a national plan of action to accelerate implementation and ensure sustainability of IHR capacities with an allocated budget.

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 3: Developed capacity. A law and a Multisectoral Committee have been established by the Cabinet and endorsed by an Amiri Decree to address IHR requirements. Multisectoral and multidisciplinary coordination and communication mechanisms are tested through real-time exercises. Currently, there is no action plan to incorporate lessons learnt from these mechanisms. Updates on the status of IHR implementation are neither developed nor shared with the different stakeholders.

Strengths/best practices

- An IHR NFP is designated at national level with several staff to guarantee 24/7 availability.
- A law is in place to facilitate the implementation of IHR.
- An Amiri Decree has established the IHR NFP and IHR Multisectoral Committee with high level representation.
- Functions, roles and responsibilities of the IHR NFP are clearly defined.
- Coordination and communication between the public health and the animal and food sectors are in place but are not standardized or documented. This was tested during a Middle East respiratory syndrome coronavirus (MERS-CoV) outbreak and preparedness activities put in place to enhance response to the potential importation of Ebola and Zika viruses.

Areas that need strengthening/challenges

- The IHR Multisectoral Committee is not yet active and does not include all sectors relevant to IHR implementation. Hence a mechanism for monitoring the implementation and sustainability of IHR capacities, and updates of IHR implementation, are not yet available.
- There is a lack of awareness of IHR and their implementation among the different stakeholders including among decision-makers of non-health sectors.
- A national plan of action to enhance the implementation of IHR in Qatar needs to be developed.

Relevant documentation

- IHR Law.
- Amiri Decree on the designation and function of the IHR NFP.
- Amiri Decree on establishment of the IHR Multisectoral 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, the problem was manageable as the growth of resistance was slow and the pharmaceutical industry continued to create new antibiotics.

Over the past decade, however, AMR is growing at an alarming rate and is outpacing the development of new countermeasures capable of thwarting infection in humans. This situation threatens patient care, economic growth, public health, agriculture, economic security, and national security.

Target

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

Qatar level of capabilities

Various AMR capacities for detection, surveillance, infection prevention and control (IPC) programmes and antimicrobial stewardship (AMS) are present at varying levels at Hamad Medical Corporation hospitals. No formalized structure is currently available to ensure nationwide implementation of AMR, IPC or AMS activities. The concept of a One Health approach for AMR needs to be enhanced to ensure containment in the future. The national AMR action plan, based on the Global Action Plan, needs to be developed in close collaboration with all stakeholders. The animal health sector for AMR needs enhancement in terms of laboratory capacity and surveillance and alignment with the human health and food sectors. General public awareness of the AMR issue needs to be promoted. The availability of AMR capacity and surveillance at HMC will make it easy to assign sentinel surveillance sites for reporting at national and international levels. Stewardship programmes are limited and future expansion is essential.

Recommendations for priority actions

- Convene a national AMR committee through engagement of all sectors and stakeholders including human health, agriculture, animal health, food, environment, and industry. This committee should conduct a national AMR evaluation and subsequently develop an integrated AMR action plan for approval by national authorities.
- Consider assigning an HMC laboratory to function as the national AMR reference laboratory for Qatar.
- Formalize the development of the national AMR/IPC (AMS is part of the AMR programme) unit with defined roles and responsibilities to develop national IPC and AMR plans.
- Strengthen AMR laboratory capacity for detection and establish surveillance within the animal health and food sectors.

- Implement AMR programmes within both the animal and public health sectors.

Indicators and scores

P.3.1 Antimicrobial resistance detection

Score 3: Developed capacity. Although there are no national plans for detection and reporting of priority AMR pathogens, the capacity available at HMC for AMR detection is excellent. The HMC laboratory has access to AMR data from hospital and primary health care levels. Once a decision is taken to assign the HMC laboratory (even in an interim capacity) as a national reference laboratory to report AMR data to the MoPH and WHO, the ranking will likely rise. The capacities of AMR surveillance at the animal sector need to be strengthened.

Strengths/best practices

- The HMC laboratory is an advanced internationally accredited laboratory conducting AMR surveillance for community-acquired and nosocomial pathogens in 8 out of 11 hospitals in the country.
- The HMC laboratory also supports the testing of clinical isolates sent through 22 primary health care centres in Qatar.
- The available capacity of the HMC laboratory can serve as a national AMR reference laboratory subject to adding some functions allowing it to act at national capacity.

Areas that need strengthening/challenges

- A decision needs to be taken on whether to assign the HMC laboratory as a national AMR reference laboratory, or to build a new national public health laboratory incorporating AMR. In the former case, plans on how to change the scope of the HMC laboratory need to be developed and implemented. The HMC laboratory would then be responsible to develop a national plan for detection and reporting of AMR pathogens approved by national authorities.
- The capacity of the animal sector laboratory needs to be enhanced to support active AMR surveillance.

P.3.2 Surveillance of infections caused by AMR pathogens

Score 3: Developed capacity. HMC hospitals have conducted surveillance of infections for some time, although they do not function in the capacity of assigned sentinel sites and have no link to the central MoPH. National integrated plans for human and animal sector AMR surveillance are still not in place. Limited passive surveillance of the animal sector for AMR priority pathogens exists. The One Health approach needs strengthening to reflect the AMR profile of the country.

Strengths/best practices

- Eight hospitals at HMC have been conducting active health care-associated infection surveillance and community-acquired surveillance since 2000. Through the two surveillance programmes, pathogens are identified and their susceptibility patterns studied. Therefore, AMR surveillance data are available in 8 out of 13 hospitals in the country without being sentinel surveillance sites.

Areas that need strengthening/challenges

- A national plan for surveillance of infections caused by AMR pathogens needs to be developed and coordinated through a national structure (IPC/AMR) within the MoPH, i.e. the Health Protection and Communicable Disease Department and the Quality and Patient Safety Department.

- Surveillance sites need to be designated for reporting human AMR data.
- The veterinary sector is only conducting minimal passive AMR surveillance, and no AMR sentinel surveillance sites are available in the animal health sector.

P.3.3 Health care-associated infection prevention and control programmes

Score 3: Developed capacity. IPC systems are in place within HMC and the PHCC, but not fully integrated with MoPH. IPC reports health care-associated infections on communicable and other diseases including MRSA, CD etc to Health Protection and Communicable Disease Control. An MoPH detailed structure must be approved before it moves forward towards having a national IPC programme (a longstanding IPC programme exists at HMC hospitals but no coordination with the national level). Even though the IPC programme started at HMC hospitals, the hospitals do not function as designated health-care facilities for IPC programmes. Small-scale activities exist in the animal sector on hygienic measures and precautions.

Strengths/best practices

- A strong longstanding IPC programme exists in 8 of the 13 HMC hospitals in Qatar with IPC experts and resources (guidelines, policies, procedures). Available IPC resources could be used when expanding IPC activities to all hospitals and primary health care facilities in Qatar.

Areas that need strengthening/challenges

- A national structure should be created to coordinate and oversee the IPC programmes in all hospitals and primary care centres in Qatar. The national IPC/AMR/AMS unit within the Quality and Patient Safety Department will develop a national IPC plan and strategy to be approved by the national authorities. Available IPC resources at HMC need to be revised and updated by the central IPC unit for further nationwide use.
- No information on biosecurity and hygienic measures in farms were made available.

P.3.4 Antimicrobial stewardship activities

Score 2: Limited capacity. No national plans for antimicrobial stewardship activities have been developed or approved. AMS activities started very recently at HMC hospitals with no central coordination with the MoPH. The activities of the stewardship are limited and the HMC hospitals are not assigned or designated as AMS centres.

Strengths/best practices

- Legislation is available that prevents antibiotic dispensing without prescription through licensed physicians.
- Hospitals at HMC have an antimicrobial policy implemented.
- AMS programmes have been available at HMC for almost a year, where they have antimicrobial steering committees, perform regular monitoring of antibiotic use, and education programmes targeting health-care providers.

Areas that need strengthening/challenges

- A national plan for AMS programmes needs to be developed by the national IPC unit to ensure nationwide implementation.

- The number of hospitals with an AMS programme needs to be expanded.
- Antibiotics are used in farms for growth promotion.
- Currently there is no legislation regarding prescription of antibiotics for animal health.
- No stewardship programmes have been implemented in the animal health sector.

Relevant documentation

- IPC policies and procedures of Hamad Medical Corporation.
- HAI surveillance guidelines of Hamad Medical Corporation.
- Antibiogram of Hamad Medical Corporation.
- IPC guidelines of private hospitals.

ZOONOTIC DISEASES

Introduction

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

Target

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

Qatar level of capabilities

Responsibility in Qatar for the prevention and control of zoonotic diseases in humans and animals lies with the MoPH Department of Public Health (which includes Health Protection and Communicable Disease Control) and the MoME Department of Animal Health Resources, respectively. Other government agencies such as the Municipalities (Health Control section) are in charge of meat inspection at slaughterhouses and retail outlets, control of foodstuffs, and monitoring of workers in food establishments.

Collaboration between the animal and public health sectors functions through regular but informal communication, information sharing and meetings for joint planning and implementation of surveillance, including outbreak investigation and response to zoonotic events and emergencies. This collaboration has been strengthened within recent years to coordinate surveillance and response to MERS-CoV cases. Collaboration between the public health sector and the veterinary sector has been tested in the past for avian influenza and brucellosis.

The Department of Public Health and AHS have jointly identified brucellosis, bovine tuberculosis, MERS-CoV and rabies as priority zoonotic diseases for collaborative activities between the human and animal health sectors. These diseases were prioritized based on their epidemic potential, economic and/or public health importance, and perceived risk or impact. An action plan for joint surveillance of MERS-CoV was jointly developed and is being implemented. There is a plan to develop written surveillance programmes for the other prioritized diseases.

AHS implements surveillance programmes for brucellosis in livestock, avian influenza and salmonellosis in poultry, as well as bovine tuberculosis (primarily slaughterhouse-based) in livestock, in coordination with Health Control section. The Department monitors and maintains a good database for all import of live animals through the main ports of entry. However, the quarantine and border security system has few appropriate quarantine facilities.

Despite good collaboration and day-to-day communication between the public health and veterinary sectors as well as with other sectors (municipalities and wildlife), especially for certain priority diseases, there are no formal structures or mechanisms to upgrade and sustain collaboration for effective surveillance and control of zoonotic diseases.

Recommendations for priority actions

- Establish formal intersectoral mechanisms for joint surveillance, risk assessment and response to priority zoonotic diseases (One Health).
- Develop written joint surveillance and response plans for identified priority diseases.
- Strengthen capacity for epidemiology, surveillance and outbreak investigations for zoonotic diseases and integrate veterinary staff in joint training programmes such as FETP.
- Develop a monitoring and surveillance system for AMR in the veterinary sector in harmony with activities conducted in the public health sector and to complement priority actions presented in the AMR section of this report.
- Upgrade veterinary quarantine infrastructure and border security procedures.
- Engage with the OIE Performance of Veterinary Services (PVS) follow-up evaluation and gap analysis.

Indicators and scores

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

Score 3: Developed capacity. The public health and animal health sectors have jointly identified four priority zoonotic diseases (bovine tuberculosis, brucellosis, MERS-CoV and rabies) for surveillance and are coordinating surveillance activities for MER-CoV. Further efforts are needed to formalize surveillance systems for all priority zoonotic diseases.

Strengths/best practices

- Collaborative activities are being carried out for the jointly agreed priority zoonotic diseases: brucellosis, bovine tuberculosis, MERS-CoV and rabies.
- Joint surveillance guidelines and protocols exist for MERS-CoV and there are plans to develop written surveillance programmes and action plans for the other priority diseases.
- AHS has a surveillance programme for some zoonotic diseases of public health importance.

Areas that need strengthening/challenges

- Joint planning, implementation of surveillance, and investigation and response to outbreaks of the agreed priority diseases have not been formalized due to lack of agreed policy and formal mechanisms/ structures for collaboration.
- Data sharing, collaboration and communication among the public health and veterinary sectors are not systematic or formal.
- There is limited infrastructure for animal quarantine.
- Surveillance capacity in AHS is limited due to laboratory procurement constraints.

P.4.2 Veterinary or animal health workforce

Score 3: Developed capacity. There is a good collaboration for joint training on outbreak investigation, surveillance and response to emerging zoonotic events. There are also plans for veterinary staff to take part in more advanced epidemiology training.

Strengths/best practices

- There are some veterinarians working in the MoPH.
- The MoPH has organized joint training on surveillance and response to zoonotic disease events with advanced training on epidemiology, including veterinarians.
- Some technical veterinary capacity is available within AHS (at national level and in the subnational veterinary centres) to support the public health sector to address one zoonotic disease event at a time, but more veterinary staff are needed.

Areas that need strengthening/challenges

- Insufficient epidemiological skills for zoonotic diseases are available in both the animal health and public health sectors.
- Insufficient joint planning or strategies for developing an overall zoonoses workforce capacity exist among sectors.

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

Score 3: Developed capacity. The public health and animal health sectors have managed effectively some zoonotic events (MERS-CoV and brucellosis). Formal mechanisms need to be put in place for joint outbreak investigations and response to zoonotic events. A national contingency plan for avian influenza exists and has been tested in the past but has not been regularly updated.

Strengths/best practices

- There are effective joint investigations and responses to specific zoonotic outbreaks (e.g. MERS-CoV).
- Emergency operations teams are in place in both the public health and veterinary sectors that jointly respond to outbreaks of zoonotic events.
- The national preparedness and contingency plan including documented procedures for response to avian influenza (2006) exists and has been tested through two joint simulation exercises in the past.
- There is regular functional communication and collaboration among sectors.

Areas that need strengthening/challenges

- There is no strategy or formal mechanism for multidisciplinary interagency response in the event of a suspected zoonotic disease outbreak apart from MERS-CoV.
- There is no national emergency response plan to zoonotic events in the animal health sector.

Relevant documentation

- Immediate and monthly reports on animal quarantine.
- Animal Health Law 86/1986.
- Veterinary Quarantine Law, 2003.
- Reports and protocols on surveillance and investigation of MERS-CoV cases.
- Report of the OIE evaluation of the Performance of Veterinary Services, 2008.
- Contingency plan against avian influenza in the State of Qatar, 2006.
- Avian influenza early detection and preparedness strategy, 2006.
- Avian influenza simulation exercise document, 2007.

FOOD SAFETY

Introduction

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

Target

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

Qatar level of capabilities

Technical expertise in public health aspects of food safety is strong in many areas, e.g. notifiable disease reporting, consumer food complaints, enteric disease surveillance and investigation. Linkages to the clinical community are also strong. In addition, food complaints are received directly from consumers through social media; the public can contact the MoPH via its website or "hotline." Qatar has a highly qualified food laboratory for monitoring all incoming food products from all ports and local establishments. The Central Food Laboratory (CFL) within the HMC has begun seeking ISO 17025 accreditation. HMC and CFL participate in the PulseNet Middle East network, a molecular surveillance network for foodborne illnesses, to support the food safety regional plan and promote technical collaboration between countries. The CFL has been in place for 45 years. Bacteriology capacity is effective and the laboratory is building on this, including virology and parasitology, molecular biology, radiation and water testing.

There is overall good control of the national system. Compared to the 2013 IHR Assessment, there is now a joint response to outbreaks, identified and verified by the Surveillance Department of Qatar Centre for Disease Control; CDC includes different groups within the MoPH, and the Food Safety and Animal Health departments in MoME. The Health Monitoring Department in this Ministry is responsible for the inspection of food processing establishments, meat inspection at slaughterhouses and control of foodstuffs in retail and storage outlets. There is good collaboration with MoPH in this regard.

At the ports of entry, there is a high, current priority attached to achieving ISO 17020 accreditation for their inspection service. One area in which they are proactive is in microbiological sampling of imported food. Of the 7000 samples taken at the ports last year, 2% were rejected. Currently, most of their inspectors work at the border points, but this will change and they will need more staff in other roles such as food establishment inspection. The Government is considering partnering with the private sector on third-party inspections.

Qatar is aware that its current statutory authority for food safety needs more clarity to avoid inconsistent application.

In the 2013 IHR Assessment Mission Report, Qatar stated it was in the process of establishing a new Food Safety Authority (FSA) that would be the sole authority to manage food safety from 'farm to table',

managed from within the MoPH with approximately 500 staff. There is high-level political commitment for this major transition from the current multi-agency system to the FSA. This process will integrate the functions of the agencies, including financial resource commitment, to achieve international best practices and world-class standards that are evidence-based and move from reactive to proactive management of food safety. FSA functions will include laboratories, import/export, local and imported food product licensing, surveillance, risk assessment, outbreak response and policy development. A draft organizational chart was shared. The reorganization will clarify roles among government agencies involved in food safety monitoring. A food safety law has been updated and awaits endorsement. The new law will require FSA to have strong collaboration with other sectors, including MoME for animal health, and MoPH (e.g. with Qatar CDC). The FSA implementation is expected within five years.

This food safety evaluation is based primarily on discussions of the JEE team with MoPH, AHS, MoME (but not with their food safety staff), and the Port of Entry staff.

Recommendations for priority actions

- Accelerate endorsement of the new food law and related administrative measures.
- Establish the national food authority including a 5-year action plan with allocated resources.
- Reinforce intersectoral collaboration for implementation of food safety and hygiene programmes along the food chain.
- Consider the appointment of intersectoral liaison officers.
- Consider a process for formal sharing of illness and outbreak data to inform risk-based "entry port-to-table" assessments and risk management.
- Harmonize outbreak investigation policy and practice between MoPH and MoME, e.g. standard detaining for proof of product or closing food establishments.
- Consider routine after-action reviews of MoPH and MoME outbreak responses.
- Establish interdisciplinary training for outbreak investigation and other collaborative food safety activities.

Indicators and scores

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

Score 3: Developed capacity. Foodborne disease infrastructure is very good. Outbreak/event detection via notifiable disease reporting and consumer food complaints is robust. Food and clinical laboratory technology appear up-to-date. There is also a robust joint response to suspected foodborne illness reports with both disease control and environmental investigations, at least when recognized through the national systems. There is active case management and epidemiological investigation of human cases of suspected foodborne illness. Under these circumstances collaboration and communication among the responding organizational units are good. However, coordination of the national system with the local level has not been formalized, and there appears to be some uncertainty about what happens at the local level regarding inspection and monitoring of food when there are consumer complaints or when suspected illnesses are reported directly to the municipality. Laboratory capacity for bacterial surveillance and investigations (including diagnostics) is stronger than the capacity for viral, parasitic and radiologic surveillance and investigations. Food bacteriology and food chemistry is quite good.

Strengths/best practices

- Robust foodborne disease surveillance via both reportable diseases and consumer complaints exists. The approach to consumer complaints is noteworthy. Many health authorities have good monitoring for illnesses, but not all commit to critical evaluation of consumer complaints of foodborne illness.
- Robust responses occur to food events with joint public health and environmental investigations.
- Active human foodborne illness and outbreak data are analysed, summarized and distributed to the public health community.
- Qatar participates in the International Food Safety Authorities Network (INFOSAN).

Areas that need strengthening/challenges

- There is insufficient coordination and communication between disease control and food regulatory units.
- Personal and professional communication is good, but institutionalized organizational linkages are needed.
- The establishment of the single FSA based on current plans should improve coordination and communication and clarify roles and responsibilities. Having the FSA reside within the MoPH will also help minimize some of the expected tension between balancing human health against the economic health of the food industry.
- Developing joint standard operating procedures (SOPs) will help unify response.
- Training and certification of more food inspectors and food handlers is needed.
- Some challenges in coordination/communication will likely remain after the establishment of the FSA.
- Within the MoPH's broad mission of public health, the work of disease control professionals and food regulatory professionals is different and therefore priorities can conflict.
- The FSA's focus will be on primary prevention, and monitoring food and food establishments to prevent contamination.
- Outbreak detection and investigation is secondary prevention.
- The benefits of information sharing, coordination and collaboration will become increasingly important if and when the food or clinical labs do more molecular subtyping. To address these challenges:
- Qatar should consider assigning full-time, intersectoral liaison officials to work at the disease control, animal health, and food regulatory interfaces.
- Interdisciplinary training for disease control staff, laboratory staff, food inspectors, and animal health professionals will increase mutual understanding and respect for the others' contribution to food safety (e.g. outbreak investigation, food testing, food establishment inspection).
- A goal over time will be SOPs for joint activities such as outbreak or food contamination investigations or formal risk assessment.

Relevant documentation

- Qatar Food Law No 8, 1990, No 4-2014.
- Gulf Coop Council Standards Technical Regulation for Food Standards (revision in press).
- GCC and Food Permanent Committee Notification.
- Municipalities Standards for Restaurants and Other Food Establishments.

- External Sources such as the Food Standards Australia New Zealand, CODEX, WHO Guidelines for Water, European Standards.
- Draft Organizational Chart for planned Food Safety Authority.
- Mandate and functions of the Municipal Control Department of the Ministry of Municipality and Environment (http://www.mme.gov.qa/cui/view.dox?id=1086&siteID=2&contentID=1108).

BIOSAFETY AND BIOSECURITY

Introduction

Working with pathogens in the laboratory is vital to ensuring that the global community possess a robust set of tools—such as drugs, diagnostics, and vaccines—to counter the ever evolving threat of infectious diseases.

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

Target

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

Qatar level of capabilities

Biosafety and biosecurity are related, but not identical concepts. Biosafety refers to the protection of individuals and the environment from exposure to potentially hazardous biological agents. Biosecurity refers to the protection of microbial agents, toxins or research-related information from loss, theft, diversion or intentional misuse. Therefore, biosafety has procedures and practices in place to prevent exposure and occupationally acquired infections, while biosecurity ensures that biological materials and relevant sensitive information remain secure.

Qatar has currently no national biosafety and biosecurity legislation, regulation or guidelines. At the laboratory level, there is no formal inventory of the pathogens worked on.

In the Hamad Medical Corporation and Central Food laboratories, biosafety policies and programmes are in place, but biosecurity remains limited in its implementation. Nevertheless, HMC does have a biosafety committee.

Recommendations for priority actions

- Implement national biosafety and biosecurity legislation.
- Undertake an inventory of agents/pathogens of concern, perform risk assessments and implement mitigation plans in the facilities housing those agents.

- Establish a national biosafety and biosecurity team to enhance collaboration and information sharing about best practices, and to develop and implement biosafety and biosecurity policies and guidelines at all levels throughout the country, including at private sector laboratories.
- Improve training in biosecurity for all laboratories.

Indicators and scores

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

Score 3: Developed capacity.

Strengths/best practices

- A biosafety committee exists at HMC.
- A laboratory health and safety programme is in place at HMC, covering the biosafety.
- The Central Food laboratory also has a biosafety policy.
- Dangerous pathogens and toxins are worked on in a determined select number of facilities.
- Tools and resources to support diagnostics that preclude culturing dangerous pathogens are in place such as polymerase chain reaction.
- An oversight monitoring and enforcement mechanisms is implemented for private laboratories.

Areas that need strengthening/challenges

- National biosafety and biosecurity legislation needs to be developed and implemented.
- Regulations need to be developed to cover all existing gaps in biosafety and address biosecurity.
- The oversight of monitoring of biosafety and biosecurity should be improved.
- Up-to-date records and pathogen inventories should be improved within facilities that store or process dangerous pathogens and toxins.

P.6.2 Biosafety and biosecurity training and practices

Score 3: Developed capacity.

Strengths/best practices

- Biosafety training is offered for laboratory staff and is part of the knowledge for individual licensing.
- Biosafety training is also provided as a part of medical school education.
- Qatar has a training programme in place at most facilities housing or working with dangerous pathogens and toxins in the public sector.
- Staff are trained in public laboratories on the transport of infectious substances according to United Nations regulations.

Areas that need strengthening/challenges

- A train-the-trainers programme needs to be developed and implemented for biosecurity.
- Sustained academic training should be developed on biosafety and biosecurity for those who work with dangerous pathogens and toxins,

- Further training should be developed for the private sector.

Relevant documentation

- LMP-FS-001-000-000-Laboratory Health and Safety Program – HMC.
- VIR-FS-001-001-000 Virology Lab Safety.
- VIR- FS-001-004-000 Biosafety in handling specimens with novel influenza viruses.

IMMUNIZATION

Introduction

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

Target

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

Qatar level of capabilities

Routine immunization in Qatar began in the 1950s, and the first nationally funded infant programme for diphtheria, tetanus and polio started in 1975. The Qatar National Immunization Programme now covers 15 target diseases.[1] The Programme is currently one of the most comprehensive immunization programmes globally with several life-saving vaccines recently introduced. The National Vaccination Plan is fully aligned with the WHO Global Vaccine Action Plan.

Some of the successful outcomes of the National Immunization Programme include high immunization coverage rates among defined populations, successful supplementary vaccination campaigns and reduction in outbreaks of vaccine-preventable diseases. However, Qatar did not achieve the target of measles and rubella elimination by 2015 with the incidence of measles still at 26.5 per million in 2014.

Based on Decree Law 17 (1990) on the prevention of communicable diseases, the National Immunization Programme must carry out mandatory immunization status check-ups at school entry. The procurement and distribution of vaccines is centralized and managed by the MoPH, which is also in charge of national supervision, monitoring and training activities as well outbreak investigation of vaccine preventable diseases (VPDs). The Primary Health Care Corporation carries out most of the immunization activities at the 22 primary health care clinics. Due to immigration and rapid turnover of the foreign-born workforce, the need for immunization activities has increased rapidly during recent years, and the role of the private sector as well as semi-governmental service providers has grown substantially. Although administrative data show constantly high vaccination coverage, the population level protection against VPDs is still uncertain as some non- or under-vaccinated population groups may still exist. The foreign-born workforce arriving in Qatar from countries with a high incidence of VPDs may increase the risk for disease outbreaks. Improved outreach immunization services and proof of immunization status prior to arrival in Qatar may be required to ensure the proper control of VPDs at the population level.

Recommendations for priority actions

- Develop an electronic central vaccination registry linked to the population and immigration data covering all vaccines administered in Qatar.

[1] diphtheria, hepatitis A, hepatitis B, Haemophilus influenzae type b, influenza, measles, mumps, pertussis, pneumococcal infections, poliomyelitis, rotavirus, rubella, tetanus, tuberculosis, and varicella.

- Continue improving population-level vaccination coverage:
  a. Define non- and under-vaccinated populations using appropriate methods such as vaccination and sero-epidemiological surveys as well as estimation of vaccine wastage, and establish outreach immunization services to reach these populations.
  b. Enforce a mandatory vaccination policy prior to day-care and school entry in the public and private sectors.
  c. Develop a policy to obtain vaccination certificates from Gulf Cooperation Council Approved Medical Centres Association or other authorization bodies for foreign citizens seeking a work visa to Qatar.
- Continue improving outbreak investigation of VPDs with clear roles and responsibilities of outbreak investigation and Expanded Programme on Immunization teams.
- Develop collaboration between all stakeholders to improve forecasting of vaccine demand and supply chain management.

Indicators and scores

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

Score 5: Sustainable capacity. Based on administrative data, coverage of two doses of measles-containing vaccine has been above 95% for the past 10 years. In addition, the MoPH has conducted measles supplementary vaccination campaigns in 2002, 2007 and 2011, and is planning a new campaign in October 2016.

Strengths/best practices

- An extensive, scientifically sound and well-funded national immunization programme exists.
- Government commitment is evident to introduce new vaccines to prevent significant mortality and disease burden, e.g. inactivated polio vaccine, rotavirus vaccine, pneumococcal conjugate vaccine and varicella vaccine to prevent significant mortality and disease burden
- High immunization coverage is sustained among defined populations.
- The National Immunization Technical Advisory Group (NITAG), the active and top technical expertise on vaccinology, includes representative from the MoPH, HMC, PHCC and other relevant sectors.

Areas that need strengthening/challenges

- Efforts are needed to reduced the burden of VPDs, especially measles, rubella and varicella.
- The accuracy of vaccination coverage data needs to be improved, including difficulties in estimating the real denominator for the target population.
- The need for coverage and sero-epidemiological surveys should be evaluated, including the calculation of vaccine wastage.
- Centralized electronic vaccination registry is currently being developed but is not yet operational.
- The increasing role of the private sector and semi-governmental clinics may reduce national level coordination.

P.7.2 National vaccine access and delivery

Score 4: Demonstrated capacity. Qatar has a centralized vaccine procurement and delivery system that reaches all primary health care clinics. Vaccine demand and forecasting, as well as emergency stocks, are managed by the MoPH. Cold-chain management at PHCC level is tested annually and frequently monitored by both the MoPH and PHCC. The WHO effective vaccine management assessment mission in November 2015 demonstrated 66 % overall capacity in nine technical areas. Currently no routine system exists to reach and provide vaccination to the marginalized populations.

Strengths/best practices

- Strong infrastructure and cold-chain is in place, including continuous supervision, monitoring and evaluation by the MoPH Expanded Programme on Immunization team and the PHCC.
- The well-functioning central procurement system with a six months emergency stock of vaccines has prevented prolonged stockout situations at the central level.

Areas that need strengthening/challenges

- Procurement and vaccine forecasting should also cover vaccines used in the private sector and semi-governmental services.
- Despite strong cold-chain management at primary health care centres, no assessment exists of the quality of the vaccine transportation system from the point of entry to the clinic.
- Outreach activities and proper advocacy for vaccination of non and under-vaccinated populations are limited.

Relevant documentation

- National Immunization Strategy Proposal for Qatar, 2015–2016.
- Review of Measles Elimination Programme in Qatar, WHO Regional Office for the Eastern Mediterranean, 2015.
- Review of the Expanded Programme on Immunization in State of Qatar, WHO Regional Office for the Eastern Mediterranean, May 2011.
- The Tdap vaccination campaign report 2016.
- WHO vaccine preventable diseases monitoring system. 2015 global summary: Qatar.
- Surveillance report of Communicable Diseases in Primary Healthcare Corporation in Qatar – 2015.
- Immunization Report PHCC Well baby clinics, March 2016.
- Polio Outbreak Simulation Exercise in Qatar, April 2016.

DETECT

NATIONAL LABORATORY SYSTEM

Introduction

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

Target

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

Qatar level of capabilities

Qatar's national laboratory capacity is good, especially in the public sector, which covers 80% of the population. However, to improve oversight and the national laboratory capacity to prevent and detect human and animal disease outbreaks, there is a need for better coordination of laboratories at central level.

Recommendations for priority actions

- Set up a national laboratory coordination unit.
- Set up an official laboratory system: a public health laboratory OR public health functions.

Indicators and scores

Note: this scoring was done on the basis of the public health laboratory system. An evaluation of the national animal health laboratory system was not undertaken.

D.1.1 Laboratory testing for detection of priority diseases

Score 4: Demonstrated capacity.

Strengths/best practices

- The laboratory system in place can detect at least 5 of the 10 core tests identified by the IHR (human immunodeficiency virus (HIV), influenza, plasmodia, salmonella, and tuberculosis).
- Public sector laboratories participate in international proficiency testing.

Areas that need strengthening/challenges

- Reference laboratories should be officially designated for the priority diseases.
- A national system for quality assurance should be implemented, targeting first private laboratories.

D.1.2 Specimen referral and transport system

Score 4: Demonstrated capacity.

Strengths/best practices

- Laboratory referral linkage is implemented for the public sector (HMC) and the Primary Health Care Corporation.
- A specimen transportation mechanism exists for the public sector.
- International transport regulations are followed and staff are trained.

Areas that need strengthening/challenges

- A formal mechanism for the timely sharing of data between human and animal health is lacking.
- Reference laboratories need to be officially designated and an official laboratory tiered system set up.

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

Score 4: Demonstrated capacity.

Strengths/best practices

- All health facilities of the public sector are linked to the next level of health facility.
- Tier-specific diagnostic testing strategies exist in the public sector.
- Proficiency is shown in classical diagnostic techniques including bacteriology, serology and polymerase chain reaction (PCR) in selected laboratories.
- PHCC has implemented point-of-care diagnostics for country priority diseases such as HIV and tuberculosis and is developing malaria point-of-care testing.

Areas that need strengthening/challenges

- Tests for public health purposes should be established through a public health laboratory or coordination unit that will ensure that all public health functions are covered.

D.1.4 Laboratory Quality System

Score 3; Developed capacity.

Strengths/best practices

- Public sector laboratories under the Supreme Council of Health, accredited according to international standards such as the College of American Pathologists or the National Influenza Centre, are recognized by WHO; other laboratories under MoPH are preparing for international accreditation, such as ISO 17025.
- Public sector laboratories participate in international proficiency testing.
- A system of licensing of private health laboratories is in place.

Areas that need strengthening/challenges

- The laboratories under MoME need to be supported to attain international accreditation.
- The licensing process needs to be extended to all public and private sector laboratories.

Relevant documentation

- WHO certificate of recognition for National Influenza Centre.
- College of American Pathologists accreditation certificates for microbiology and virology laboratories at HMC.
- College of American pathologists evaluation reports: Infectious Disease, Respiratory of 3/7/2016, Viral Markers of 1/18/2016 at HMC and Serology 22 February 2016.

REAL-TIME SURVEILLANCE

Introduction

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

Target

Strengthened foundational indicator- and event-based surveillance systems that are able to detect events of significance for public health, animal health and health security; improved communication and collaboration across sectors and between sub-national, national and international levels of authority regarding surveillance of events of public health significance; improved country and regional capacity to analyse and link data from and between strengthened, real-time surveillance systems, including interoperable, interconnected electronic reporting systems. This can include epidemiologic, clinical, laboratory, environmental testing, product safety and quality, and bioinformatics data; and advancement in fulfilling the core capacity requirements for surveillance in accordance with the IHR and the OIE standards.

Qatar level of capabilities

The State of Qatar has set up a good foundation of disease surveillance. A notifiable list (67 diseases/syndromes) and standardized forms are available. Priority disease exercises have been done collaboratively with the veterinarian sector. There are at least two focal persons for disease surveillance at each facility level. Indicator-based surveillance has been functioning in the country for some time, while event-based surveillance is a new phenomenon in the early stages of implementation, and requires more training and stakeholder involvement.

The current Qatari disease surveillance system is heavily reliant on manual input. While Cerner® software is currently being implemented, its access is still limited and its use for disease surveillance has yet to be evaluated. The MoPH plans to purchase public health surveillance system software, and has approval to purchase a license and secure its implementation during 2017–2019 in order to reduce the burden of communicable disease and meet national demands by 2022.

The data collected are analysed and quarterly reports will be shared with stakeholders from the end of 2016. Quarterly and yearly reports are prepared for internal use. However there is a need for data integration through standardized tools from the laboratory side. Although laboratory data are available in certain situations, these need to be standardized and integrated, system wide, with epidemiological data. Analysis and reporting of surveillance data need to be done on a weekly and monthly basis and shared with all stakeholders: only by doing this, receiving feedback and linking it with action, will the quality of data improve in the long run.

The State of Qatar has a good syndromic surveillance system in place for specific priority diseases, where clinical diagnosis for suspected cases is considered for reporting (e.g. acute flaccid paralysis, severe acute respiratory syndrome, and cholera – acute diarrhoea with dehydration syndrome).

In summary, the main communicable disease surveillance system managed by MoPH is based on the skill-base and personal relationships of its officers. Most of the work is still manual and most outbreaks are notified by calls on the Health Protection and Communicable Disease Control hotline. This close network within the MoPH system means that the performance is adequate; however, there is a need to build

upon this structure with more standardized procedures and automated information pathways. The different disease surveillance systems need to be integrated and lab is the major missing link. Disease surveillance and outbreak response needs regular, specialized on-the-job training for staff concerned staff. Most of the guidance documents, including the proposed Centre for Disease Control law, still need official approval. This could also impede formalization of the current disease surveillance system.

Recommendations for priority actions

- Integrate the health and zoonotic surveillance systems.
- Build capacity, hire professional staff and organize specialty training courses for current staff in surveillance and outbreak response.
- Finalize and issue guidance documents, e.g. approved guidelines and bulletins, CDC case definition manual and surveillance guidelines are still awaiting review and comments by some stakeholders.
- Endorse the new CDC law.
- Carry out a comprehensive, in-depth evaluation of the future disease surveillance system.

Indicators and scores

D.2.1 Indicator and event based surveillance systems

Score 4: Demonstrated capacity. Qatar has a functioning indicator-based surveillance system with 60+ reportable diseases and focal persons at reporting sites. Event-based surveillance is relatively new and will require training for all stakeholders.

Strengths/best practices

- Indicator- and event-based surveillance systems are in place to detect public health threats.
- Standardized forms exist for data collection (immediate/as soon as possible/weekly).
- Each health facility has two or more focal persons for surveillance (a nurse and a technician).

Areas that need strengthening/challenges

- The CDC law should be endorsed as soon as possible.
- SOPs and guidance documentations need to be approved and shared with stakeholders.
- Data validation needs to be done regularly and through a formalized structure.

D.2.2 Inter-operable, interconnected, electronic real-time reporting system

Score 3: Developed capacity. Score justification is a challenge in this category. While Qatar has an interoperable system, access to different sectors is limited and at varying levels. As the country is quickly moving towards an interoperable system with real-time data access, a score of 3 instead of 2 is given with caution.

Strengths/best practices

- Cerner® software is in the process of being implemented.
- There is a plan to purchase public health surveillance system software during 2017–2019.

Areas that need strengthening/challenges

- The current national disease surveillance system no longer meets current needs.
- The current system is heavily reliant on manual input and analysis.
- Veterinarian, human, laboratory and other related surveillance systems need to be interoperable.
- Continuous training of staff involved with surveillance activities should be ensured.
- Feedback at the peripheral level is sketchy and needs to be improved for good quality data.

D.2.3 Analysis of surveillance data

Score 3: Developed capacity. Qatar has set up a good surveillance system, although its analysis and reporting needs a more formal structure with a feedback component. MoPH plans to issue quarterly reports from the end of 2016; however there is a greater need for regular monthly and weekly reports to be shared with stakeholders.

Strengths/best practices

- Annual and quarterly reports are issued; the annual health report is produced under the direction of the Assistant Secretary General for Medical Affairs.
- Monthly and quarterly analyses are carried out internally.

Areas that need strengthening/challenges

- Laboratory reports should be integrated into the surveillance system starting with standardized lab forms.
- Reporting needs to be more regular at weekly/monthly intervals.
- Staff at all levels need more training opportunities in disease surveillance.
- Feedback mechanisms needs to be strengthened.
- Reporting needs to be shared with different sectors.

D.2.4 Syndromic surveillance systems

Score 4: Demonstrated capacity. Qatar has a functioning syndromic surveillance system covering many priority diseases.

Strengths/best practices

- Syndromic surveillance is in place for specific priority diseases (rash investigation – measles, rubella and congenital rubella syndrome; acute flaccid paralysis; severe acute respiratory syndrome; acute diarrhoea with dehydration syndrome).
- Certain disease data are linked with laboratory reports when available.
- Certain disease surveillance information is shared with concerned stakeholders.

Areas that need strengthening/challenges

- No regular system of sharing surveillance data exists.
- No electronic reporting is yet available.

Relevant documentation

- Surveillance guidelines (draft).
- Case definition guidelines (draft).
- Communicable Diseases Notification Form.
- CDC Law of Qatar 1990.
- CDC framework (draft).
- Event-based surveillance guidelines and SOPs; event-based surveillance trip report.

REPORTING

Introduction

Health threats at the human–animal–ecosystem interface have increased over the past decades, as pathogens continue to evolve and adapt to new hosts and environments, imposing a burden on human and animal health systems. Also, threats related to accidental or deliberate release of chemical, radiological and nuclear agents are of increasing concern. Collaborative multidisciplinary reporting on public health events reduces the risk of diseases and their international spread.

Target

Timely and accurate reporting of public health events according to WHO requirements and consistent coordination with FAO, OIE, IAEA and other relevant international organizations enhances the likelihood of rapid and coordinated response to these public health events, nationally and globally.

Qatar level of capabilities

The country has designated a National IHR Focal Point, which is currently operational. The Focal Point for OIE is established under the Animal Health Department within the Ministry of Municipality and the Environment. Within MoME departments that deal with radiation, the International Atomic Energy Agency (IAEA) focal points are established. The INFOSAN Focal Point is established within the Ministry of Public Health.

IHR NFP and OIE contact points exchange information related to zoonotic events, when needed. Information on food safety issues of microbiological origin is shared by Food Safety Department with the IHR NFP. This is being done in practice but not based on written protocols, which may put at risk timely decisions and reporting.

One of the main functions of the IHR NFP, as per the IHR law, is reporting public health events of potential international concern to WHO. The country has to date experienced infectious and zoonotic events, which were reported to WHO by the IHR NFP in a timely manner in accordance with IHR. The decision instrument (Annex 2 of the IHR) is used by the MoPH; however it is neither known nor exercised by all relevant sectors. Hence risk assessment and reporting of public health events of unknown origin or of chemical and radiation origin might be delayed.

The IHR NFP consults with WHO about the notification and response to public health events as per Article 8 of the IHR. Qatar has neighbouring country reporting requirements to the Gulf countries either through the IHR NFP in these countries or through the secretariat of the Gulf Countries Council. The IHR NFP also communicates with counterparts in other countries concerning public health events.

Recommendations for priority actions

- Establish formal protocols for the reporting mechanism, and information exchange between the IHR NFP and FAO, OIE and IAEA contact points.
- Ensure sufficient capacity of human resources to carry out risk assessments for events of unknown origin, particularly nuclear and radiological events.
- Train and expand the use of the decision instrument (Annex 2 of IHR) to identify potential public health emergencies of international concern.

- Ensure availability of reporting capacity on public health events of potential international concern of non-infectious origin to WHO.
- Conduct simulation exercises to test the capacity for early detection, risk assessment and timely reporting of chemical and radiation events to WHO through the IHR NFP.

Indicators and scores

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

Score 4: Demonstrated capacity. The country has a functioning IHR NFP and functioning FAO, OIE and IAEA focal points. IHR NFP is represented in the Permanent Emergency Committee that receives all notifications on public health events of potential national or international concern. The IHR NFP has the authority to report to WHO notifiable events under IHR, mainly infectious, zoonotic, and foodborne disease. The country has access to capacity to conduct risk assessments for the above-mentioned events; however capacity to assess the risk of events of unknown origin or of chemical or radiation nature may not be sufficient.

Strengths/best practices

- IHR NFP is defined in the country with clear terms of reference.
- Focal points for FAO, OIE and IAEA are also available with clear terms of reference.
- National laboratory capacity exists to confirm some pathogens; networking and access to international and reference laboratories for the confirmation of public health events are also available.
- Strong coordination exists among the health, animal and food sectors to identify potential public health events of national or international concern related to these sectors.
- The country has sufficient financial resources, which facilitates access to international expertise to support the country assess the risk of public health events of different origins.
- Health facilities located at the points of entry are part of the national surveillance of communicable diseases; they have a direct communication link with the MoPH including the IHR NFP.

Areas that need strengthening/challenges

- National human resources capacity is insufficient to conduct risk assessments for public health events of chemical and radiation origin and events of unknown origin.
- There is broad unfamiliarity and lack of use of the decision instrument (Annex 2 of IHR) to identify public health events of potential international concern.
- There should be more regular, and more formal information sharing mechanism among the IHR, FAO, OIE and IAEA focal points.

D.3.2 Reporting network and protocols in country

Score 4: Demonstrated capacity. Multisectoral coordination is in place to respond to potential and real public health emergencies of international concern, including at PoE. The IHR NFP reports to WHO in a timely way infectious, zoonotic and foodborne disease of potential concern. The national focal points of FAO, OIE and IAEA are also mandated to report to their respective agencies on notifiable events. No real chemical or radiation events have occurred in the country so timely real-life reporting has not been tested. Mechanisms for information exchange among the different sectors are in place but not formally standardized.

Strengths/best practices

- IHR NFP is a member of the Permanent Emergency Committee, which facilitates sharing and receiving information on public health events occurring in the country.
- IHR NFP is the authority to report potential public health events of international concern to WHO, particularly infectious, zoonotic, and foodborne diseases in a timely manner.
- Coordination is established with different stakeholders through the Permanent Emergency Committee, which facilitates discussion among relevant sectors and decisions on public health events occurring in the country or other countries.
- Strong transparency is demonstrated by the Government in information sharing of public health events occurring in the country and of preparedness measures related to public health events that could be imported into the county.
- SOPs for rapid response teams are clearly defined for response to notifiable diseases (infectious, zoonotic, and foodborne diseases), including at PoE.

Areas that need strengthening/challenges

- There is a lack of regular and formal information sharing mechanisms that include feedback on the response to public health events occurring in the country.
- The country has never experienced a real public health event related to chemical or radiation origin; hence the inability to meet timely reporting of such events to WHO through the IHR NFP.

Relevant documentation

- IHR Law on notification of public health events to WHO.
- Amiri Decree for the establishment of the Permanent Emergency Committee with terms of reference and membership.
- Terms of reference of IHR NFP.
- Terms of reference of the OIE, FAO and IAEA focal points.
- Updated draft of the Communicable Disease Law, sectors involved in the surveillance of communicable disease.

WORKFORCE DEVELOPMENT

Introduction

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

Target

State parties should have skilled and competent health personnel for sustainable and functional public health surveillance and response at all levels of the health system and the effective implementation of the IHR (2005).

Qatar level of capabilities

Qatar has finalized a public health strategy, although the JEE team was not able to review it. Strengthening of the entire human resources system is being financed by the State of Qatar, with the complete support of senior decision-makers in the country. While Qatar has a good number of physicians, nurses and other allied health professionals, data on the public health workforce are difficult to obtain. Epidemiologists are rare and those who perform the functions of epidemiologists work under different job titles. The MoPH has most of this capacity at the national level. Other health sector organizations like the Hamad Medical Corporation and the Primary Health Care Corporation are in a similar situation. The "Assessing learning impact programme" tracks all specialist courses provided to clinical and non-clinical employees and could be used to track the public health workforce. Despite this, it is difficult to ascertain the exact number of trained epidemiologists available in the country and where they are placed. The First Qatar National Public Health Conference in 2016 is a major initial step to identify and bring public health officials together. This conference will help formalize communication channels among the public health workforce which, until now, has been at an individual level.

There is no FETP in the country, although short-term public health training programmes are available from the Liverpool School of Public Health and Tropical Medicine and other institutions. These programmes have very limited focus on disease surveillance and outbreak response (a six-month course has four days of instruction on these areas). To date, 22 officers have been/are being trained in this programme. A Masters and a PhD programme in epidemiology/public health are also available from the Qatar Foundation University (fee-based for non-citizens). An Arab Board in Community Medicine training programme (4 years) provides the basic level of epidemiology and some field training. Many of these courses are also available for nurses and some allied health professionals.

Although the JEE team was not able to review it, they were informed that the National Workforce Strategy 5.1 is being implemented and tracked. The team was also informed that current "Medical law" provides a career structure with a separate career structure available for Qatari citizens.

Recommendations for priority actions

- Develop a strategy to attract and retain experts, including a career path.
- Establish a training programme focused on disease surveillance and outbreak response.
- Establish a ore structured form of communication among epidemiologists and public health officials.

Indicators and scores

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

Score 4: Demonstrated capacity. Despite difficulty in ascertaining the actual number of epidemiologists and other public health officials across different stakeholders, Qatar has demonstrated capacity in forming multidisciplinary teams and an informal system of contacts which could help in setting up the needed formal structures, e.g. to withstand changes in personal.

Strengths/best practices

- Current IHR capacity is available in the country at different levels of the health system.
- Multidisciplinary joint teams are organized according to the type of health hazard.
- Each local level has its own capacity on epidemiology, case management, laboratory, etc.

Areas that need strengthening/challenges

- Information about IHR capacity is fragmented and needs to be channelled.
- A system to respond to health hazards needs to be formalized.
- Interest in developing IHR capacities at different levels and in different sectors should be ensured.

D.4.2 Field Epidemiology Training Programme or other applied epidemiology training programme in place

Score 3: Developed capacity. No FETP is available in the country, although the Liverpool School offers a six-month short course that could be considered as a basic applied programme.

Strengths/best practices

- Resources are available for learning and development.
- Personal training plans are supported by MoPH.
- A short-term public health training programme is available by the Liverpool School and others.
- Masters and PhD programmes are available in epidemiology/public health in the Qatar Foundation University (fee-based for non-citizens).
- MoPH understands the need for applied epidemiology programmes and plans to initiate them soon.

Areas that need strengthening/challenges

- The shortage of experts in epidemiology and public health needs to be addressed.
- There is no long-term or focussed training on disease surveillance and outbreak response, except for short courses by different organizations (field/applied epidemiology).
- Structured information sharing among epidemiologists should be formalized.

D.4.3 Workforce strategy

Score 3: Developed capacity. The JEE team was not able to review the public health workforce strategy document. However interviews with staff shed light on a policy that may have options for the public health workforce. However this policy, if it is being practiced, needs to be regularly reviewed, updated and implemented consistently across all public health workers,

Strengths/best practices

- The national workforce strategy 5.1 is believed to be implemented and tracked.
- The Public Health Strategy is to be launched soon.

Areas that need strengthening/challenges

- Career paths are limited.
- There is a high turnover of technical staff.
- Historically, there are no retention policies or incentives, although this seems to be gradually improving.

Relevant documentation

- No documentation is listed for this capacity.

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

The effective implementation of the IHR (2005) requires /multidisciplinary approaches through national partnerships for effective alert and response systems. Coordination of nationwide resources, including the sustainable functioning of a National IHR Focal Point (NFP), which is a national centre for IHR (2005) communications, is a key requisite for IHR (2005) implementation. The NFP should be accessible at all times to communicate with the WHO IHR Regional Contact Points and with all relevant sectors and other stakeholders in the country. States Parties should provide WHO with contact details of NFPs, continuously update and annually confirm them.

Qatar level of capabilities

The Permanent Emergency Committee was established by the Council of Ministers in 1998 and. It is a multisectoral body wherein health is one of the sectors under the leadership of the MoPH (formerly Supreme Council of Health). PEC has identified potential hazards and designated lead and co-lead agencies to manage their risks, and has defined the designation process and roles of committee member agencies according to identified hazards that fall under their mandates, such as the MoPH as the lead agency for biological hazards/emergencies.

Qatar has established the National Emergency Preparedness and Response Plan aligned to IHR, covering all hazards with special consideration for chemical, biological, radiological and nuclear (CBRN) threats, which are operationalized and implemented multisectorally, sectorally, and organizationally. A National Focal Point and/or Focal Persons have been designated within the MoPH.

The MoPH has created a dedicated office in charge of coordinating responses to all types of health emergencies and disasters, namely the EPR Department. It has also designated the Department of Public Health with the special role of being the IHR NFP. The role includes overseeing implementation of the programme and plan for public health emergencies of international concern, as well as maintaining communication, coordination and collaboration with the WHO IHR contact points in cases of public health emergencies.

The MoPH has also developed the National Health Emergency Management Plan linked to and complemented by the plans of its sectoral and multisectoral partner agencies. These include HMC, the Ambulance Service, PHCC, Ministry of Interior, Defense, Police, Environment, Qatar Petroleum, Qatar Red Crescent Society. Such sectoral partners contribute to managing public health emergencies of national and international concern according to agreed triggers to activate the plan. Other organizational changes and changes of leadership in the country may affect the public health emergency management operations.

Recommendations for priority actions

1. **Plan review and updating**

- the plans should be reviewed and updated taking into account current changes such as the terminologies; the new brands of organizations; the organizational restructuring, new leadership, new systems, and its compliance to IHR 2005 core capacities development.

2. **Plan advocacy**

- Advocate the EPR plan and National Health Emergency Management Plan or Public Health Emergency Management Plan to leaders, especially new ones, to gain their approval, as well as their signature to legitimize their operationalization and implementation.
- The MoPH should take the lead in advocating and supporting the development, signing, approving, testing and regular updating of the organizational plans, integrating strategies, activities and their roles in managing public health emergencies of national and/or international concern.
- The MoPH should also take the lead in conducting sectoral drills to heighten awareness across the health sector of the need to develop a National Public Health Emergency Management Plan, or integrate this Plan in their organizational plans; to test the functioning of sectoral plans and the interoperability of systems; and to optimize the results of the post-drill/exercise evaluations for updating the Plan.

3. **Implement the National Logistics Management System**

- Establish and regularly monitor stockpiles based on updates from risk assessments, experience from actual emergency response operations, and the needs of end-users.
- Create an inventory of CBRN-related stockpiles and develop guidelines for their use and mobilization.

4. **More inclusive health sector network**

- Include the private sector with delegated tasks, clear roles, and functions in emergency and disaster management.
- Explore the possibility of providing technical assistance to the private sector based on their capacity-building needs in the field of public health emergency management (training, drills, logistical support, etc.)
- Improve coordination.

5. **Policy development**

- Develop IHR legislation.
- Encourage joint (cross-sectoral) emergency planning/testing.

Indicators and scores

R.1.1 Multi-hazard National Public Health Emergency Preparedness and Response Plan is developed and implemented

Score 4: Demonstrated capacity.

Strengths/best practices

- The country has a National Emergency Preparedness and Response Plan integrating sectoral and organizational plans. There is a National Health Emergency Management Plan or Public Health

Emergency Management Plan that incorporates plans of health sector members such as PHCC, HMC, Ambulance Service, unified with the multisectoral National EPR Plan.

- These plans at various levels – applying to society as a whole and developed through multisectoral consultation – have multi-hazard coverage and specifically include IHR-related hazards at PoE.
- Local surge capacity is available to respond to public health emergencies of national and international concern, with limitations.
- There are procedures and plans to relocate or mobilize resources or stockpiles (drugs, medicines, equipment, etc.) from national and intermediate levels to support response at the local level as part of their logistics management system.
- Resource gaps are being addressed through access to assistance from regional sources (GCC Logistics Centre and WHO Global Outbreak Alert and Response Network, in which Qatar is a member).
- The plans already developed are in various stages of implementation and regularity of testing and updating.

Areas that need strengthening/challenges

- Plans at various levels await approved because of turnover of leadership and reorganization.
- The National Plan is developed but awaits formal installation of the Supreme Council of Civil Defense (replacing the PEC) which is mandated to endorse the plan.
- The National Health Emergency Management Plan/National Public Health Emergency Management Plan has been approved by the health sector members after consultation and reviews but final approval awaits new leadership in the MoPH.
- Various plans are being implemented, tested, reviewed and/or updated despite not being signed.
- Coordination and communications of existing plans should be improved with health sector members.
- Organizational changes hinder the endorsement and integration of the National EPR Plan at the PEC level.

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

Score 4: Demonstrated capacity.

Strengths/best practices

- Risk assessment exists including hazard analysis identifying national risk profiles
  - Hazard and risk analysis is done by PEC for contingency planning and designating lead and co-lead agencies to manage identified risks.
  - Risk assessment and capacity assessment are tools applied by the national and sectoral members in crafting their EPR plans.
- Hazards mapping and classification at regional (GCC) and country level is done by the disaster/crises risk management committee managed by the GCC secretariat.
- Capacity assessment with concomitant resource mapping is conducted at various levels from the national, sectoral, and organizational levels.
- A system for stockpiling and distribution of health-related logistics exists under the leadership of Hamad Medical Corporation Material and Management Department, to support public health emergency management operations.

- Guidelines and plans have been developed on logistics management and resource mobilization, and resources are available.
- A pool of experts has been identified across the government health sector together with databases with limited participation of the private sector.
- Government funds are provided for the public sector to support their public health emergency management operations, while the private sector covers its own financial needs.

Areas that need strengthening/challenges

- Stockpiles are limited for CBRN substances (in development) but have annual reviews and update of resources.
- Coordination, communication and information sharing among stakeholders must be improved.
- There is only limited availability and immediate access to emergency funds.
- Simulation exercises are necessary since the country lacks exposure to major emergency.
- Legislation is needed to address IHR operational concerns.

Relevant documentation

- Qatar National Health Emergency Management Plan, 2015 (draft).

EMERGENCY RESPONSE OPERATIONS

Introduction

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

Target

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

Qatar level of capabilities

The country has a national EOC operating procedure and protocol. At the national level there is a functional point of contact available 24/7 at the National Command Centre responsible for receiving all reports of emergencies, and cascading the information to all concerned agencies for the immediate appropriate response. There are established EOCs at government agencies such as the Ministry of Civil Defense, MoME, PHCC, and MoPH, the System Wide Incident Command Centre at Hamad Medical Corporation, as well as the EOCs of nongovernment organizations such as Qatar Petroleum. The MoPH EOC monitors reports for any public health emergency 24/7 and responds immediately if necessary.

The procedures to activate and operationalize EOC in times of public health emergencies are embodied in the National Health Emergency Management (Response) Plan and health sectoral plans. Trained staff are available to manage EOC operations and drills are conducted to test EOC functionality and operationalization. However, there are agencies that have no dedicated EOC physical structure; instead it is located within the public health or emergency management-related office, and functional and operational 24/7.

Recommendations for priority actions

1. **Capacity to activate emergency operations**

- MoPH shall initiate and promote the institutionalization of EOCs with policy, guidelines, protocols, trained human resources, dedicated facilities, organized EOC staff/response teams, information and communication systems, technologies, lifelines, as well as resources including financial to support operations.
- Recruit additional trained staff.
- Establish and strengthen the integrated information management system.
- Improve coordination and information sharing between health sectors and other sectors

2. **Capacity to activate and operationalize EOC**

- Improve coordination and information sharing between health sector and others such as the animal health sector.

- Review EOC personnel complementarity and hire additional trained staff if necessary.
- Strengthen the information management system.

3. **Emergency Operations Programme**

- Develop training programmes for EOC staff, responders and managers to enhance their capacities in handling data and information, immediate response to emergencies, and managing disaster risks.
- Enhance the capacity of staff in managing exercises and optimizing lessons for updating and strengthening the Response Plan.

4. **Case management procedures for IHR-relevant hazards**

- Develop a CBRN programme with policy, structure, facility development, human resources, technology, standard case management procedures and other support to operations.
- Train appropriate staff and improve resources for management of IHR-related emergencies.
- Improve coordination and sharing of best practices and information between the health and other sectors.
- Enhance the Response Plan in its surge capacity management.

Indicators and scores

R.2.1 Capacity to Activate Emergency Operations

Score 4: Demonstrated capacity. The indicator refers to public health emergency operations for the country. The EOC should include: information systems to connect public health decision-makers to appropriate data sources; communications equipment; and staff that are trained and capable of coordinating an emergency response. This refers to the capacity of the country to initiate and escalate emergency operations in terms of procedures and protocols; point of contact; trained EOC staff on response activation; and an exercise to test functionality of the system.

Strengths/best practices

1. **Procedures and protocols to activate emergency operations exist**

- An organizational Response Plans exists containing systems of reporting emergency, alerting, notification, response activation, and communication flow. These include the roles of the concerned responding agencies in public health emergency response.
- An activation, escalation, de-escalation and stop operation process, based on set criteria, are found in the National Health Emergency Management (Response) Plan.

2. **EOC point of contact**

- The National Command Centre (999) is the national point of contact available 24/7 responsible for receiving all reports of emergency, and cascading to all concerned agencies for immediate response.
- The MoPH EOC is functional 24/7 to monitor reports related to public health emergencies and to activate immediate response if necessary.

3. **Trained EOC staff team on emergency management and public health emergency SOPs**

- The staff manning the EOCs are trained on emergency management and oriented on the EOC standard operating procedures for public health emergency response as observed in MoPH, Hamad Medical Hospital, MoME and as well as Civil Defense, among others.

4. **Dedicated, trained EOC staff can activate a response within two hours**

- Part of the training of EOC staff is the activation of response actions within two hours upon notification of a public health emergency. MoPH has response teams that could provide and support immediate response to a public health emergency, if necessary.
- Training programmes are available in Incident Command Systems in operation areas (i.e. hospitals, PHCC).

Areas that need strengthening/challenges

- Existing EOCs show various functionality in the health sector with some having no dedicated physical structure (located within the public health or emergency management office) but functional 24/7; others have physical structure but are not functional 24/7 (activated 24/7 only if there is an emergency).
- There is a growing need for competent staff.
- The information management system needs strengthening, including information sharing with health sector agencies.
- More staff training is needed.

R.2.2 Emergency Operations Center Operating Procedures and Plans

Score 4: Demonstrated capacity. Emergency operations plans should be developed that can be scalable and flexible to address emerging disease threats. Exercises should test the capacity of the emergency operations systems and staff to coordinate a large response affecting multiple communities, and involving multisectoral coordination. Functional exercises should be held on an annual basis; additional drills, table-top exercise and simulations can supplement the functional exercises.

Strengths/best practices

- Plan, procedures and protocols for the Incident Management System exist. Procedures and protocols to activate and operationalize EOC are embodied in the Health Emergency (Response) Plans including triggers for activation and levels of operations.
- An Incident Management System structure or equivalent is available. A plan is also in place describing the incident command system structure, operational elements and basic roles (including Incident management or command, operations, planning, logistics and finance).
- A plan for public communication and partner liaising and coordination is available. The plan describes key structural and operational elements for basic roles (including incident management or command, operations, planning, logistics and finance).
  - The EOC in Public Health is available with needed equipment.
  - Command centres are available in all health facilities integrated in the National Health Emergency Management Plan.
  - Thestructure to convene participants from ministries and other national and multinational partners as appropriate (i.e. National Health Disaster Management Committee) is in place.
  - There is a multisectoral commission or a multidisciplinary emergency response department for public health (the National Committee for Health Disaster Management).

Areas that need strengthening/challenges

- The National Health Disaster Management Committee, currently under reform, only includes representation from the human health sector, which should be extended to the animal health sector.

- There is a need for additional trained staff and manpower.
- An integrated, responsive and user-friendly information management system is also needed.

R.2.3 Emergency Operations Program

Score 3: Developed capacity.

Strengths/best practices

- Drills and exercises are in place to test EOC operations.
- Table-top exercise have been completed to test systems and decision-making.
- Summaries of any improvement in the plans, after-action reports, or lessons learnt documents completed as a result of exercises or activations are available in the records of changes in emergency management plans.
- Qatar has the capability of activating the EOC and coordinating a response within 2 hours from identification of a public health emergency.

Areas that need strengthening/challenges

- Many table-top exercises are conducted regularly at facility level, but few at national level.
- Limited planning functions and logistics mobilization exist to support emergency management operations.

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

Score 3: Developed capacity.

Strengths/best practices

- Available case management guidelines for priority diseases and IHR-relevant hazards exist at all health system levels.
- SOPs (according to national or international guidelines) are available for the management and transport of potentially infectious patients at the local level and points of entry.
- A patient referral and transportation mechanism is available with adequate resources (designated ambulances and SOPs).
- Appropriate staff are available who are trained in case management of IHR-related emergencies.

Areas that need strengthening/challenges

- Resources and systems, e.g. coordination and collaboration in the areas of IHR-related hazards (CBRN), are limited and need to be expanded.
- There is an inadequate number of trained staff especially in the areas of IHR-related hazards (CBRN).

Relevant documentation

- Qatar National Health Emergency Management Plan, 2015 (draft).

LINKING PUBLIC HEALTH AND SECURITY AUTHORITIES

Introduction

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

Target

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

Qatar level of capabilities

The Permanent Emergency Committee has the mandate to coordinate the response to a wide spectrum of disasters and emergencies including public health events, in peace time. This responsibility is shifted to the army in war time. The Committee is led by the Minister of Interior and has 25 members (undersecretaries, director generals and directors) from 16 sectors including security, police, and the army. Its terms of reference are clearly defined. Members meet regularly and on an ad hoc basis to share information and take decisions related to events occurring in the country, including public health events. Relevant sectors take the lead in the response to events in coordination with other concerned sectors.

The Supreme Council for Civil Defense is being established by the Cabinet to take over this Committee . The Council will be led by H.M. the Amir of the State of Qatar and will have high level of representation (minsters).

A mapping of hazards is conducted regularly in the country and potential risks, including disease outbreaks and their most likely sources, are identified. A National Plan for EPR is in place and usually updated following the review of the hazards' mapping. While the hazards' mapping and so the National EPR Plan have recently been updated, endorsement of the Plan awaiting the official establishment of the Supreme Council for Civil Defense.

The roles and responsibilities of each sector are identified in this Plan. Also, SOPs for the Plan are in place and accessible to all sectors. A drill exercise is conducted on annual basis and the Plan is reviewed accordingly. Sectoral plans also exit, including for public health preparedness and response but not as an integral part of the National Plan.

A coordination mechanism also exists in the country with the other Gulf countries for emergency preparedness and response. A regional plan and mapping of hazards at regional level are also updated regularly.

Qatar has faced infectious disease outbreaks (e.g. A(H1N1) influenza and MERS-CoV). These have necessitated a multisectoral response involving both national and international stakeholders. The engagement of law enforcement has been substantial in the investigation and response to some public health events.

Within the governmental structure, the public and animal health systems at all levels are able to request the support and engagement of law enforcement agencies for assistance with managing a health event or hazard. Since the reporting of MERS-CoV cases in 2014, important lessons have been learnt and innovative strategies progressively developed to jointly investigate human and animal cases and minimize the risk of local transmission of the virus.

The existing structures in Qatar may not require the need to develop protocols between public health, animal health, food safety, and law enforcement and security agencies: protocols such as SOPs to accelerate the needed coordination for a prompt and appropriate response are in place. The SOPs are developed within the framework of the national contingency plan and clearly define the authorities, commitment of resources, roles and responsibilities of health and law enforcement and security agencies, foreign affairs and other sectors, which are specific to the various types of health events and hazards. Specific events include disease outbreaks, events at PoE, quarantine issues, food contamination, chemical and radiation hazards, and intentional use of biological agents. These all require information sharing, joint investigations, joint risk assessments, coordinated control activities and law enforcement.

Protocols also include terms of engagement with international entities and mechanisms, such as Interpol, United Nations agencies, and the UN Secretary General's Mechanism for Investigation of Alleged Use of Chemical and Biological Weapons.

Recommendations for priority actions

- Endorse the national contingency plan and ensure integration of sector-specific emergency preparedness and response plans.
- Ensure access to national and sector-specific plans and joint assessment protocols by all concerned personnel at the different levels of seniority.
- Enhance peer-to-peer and senior-to-subordinate knowledge transfer to ensure institutional capacity-building.
- Operationalize plans at different administrative levels to ensure their functionality, when needed.
- Put in place a mechanism to facilitate sharing of feedback on conducted training at the different levels.
- Provide joint training for public health and security personnel at all levels on the SOPs, and on joint training exercises, drills and investigations and responses.

Indicators and scores

R.3.1 Public Health and Security Authorities, (e.g. Law Enforcement, Border Control, Customs) are linked during a suspect or confirmed biological event

Score 5: Sustainable capacity. The Permanent Emergency Committee led by Ministry of Interior is coordinating the response to major events including public health events. The Committee acts with full power and authority and high-level representation. There is strong coordination and information sharing among members for updates and the decision-making process. The Committee meets regularly and on an ad hoc basis. Protocols exist between public health and security authorities within the country and have been formally used.

Strengths/best practices

- The Permanent Emergency Committee has high-level representation from 16 sectors, well defined terms of reference, members who are well communicated through technology, regular conduct of simulation exercise and drills, and regular reviews after real events using external experts.

- The Supreme Council for Civil Defense is being established to take over this Committee, with the same terms of reference and functionality, but higher level representation (Amir, minsters, deputy minsters, etc.).
- Strong coordination and collaboration exist with the media.
- The PEC has clear protocols that engage the police or the army when there is a disaster or major hazardous event.
- SOPs are in place to guide the actions of different stakeholders in a highly coordinated, multisectoral response to emergencies including public health emergencies. The SOPs clearly define the authorities, commitment of resources, roles and responsibilities of health and law enforcement and security agencies.
- The national system and structure of the country enables the civil government to call in the police, security or army to assist with any event requiring law enforcement.

Areas that need strengthening/challenges

- There are no major limitations; however, knowledge transfer and operationalization of plans need further enhancement.
- Joint training between the different sectors, including law enforcement and security, need further enforcement.

Relevant documentation

- Terms of reference and structure of the Permanent Emergency Committee
- Terms of reference and structure of the Supreme Council of Civil Defense.
- National contingency plan.
- Protocols and standard operating procedures for information sharing, investigation and response to the different hazards.

MEDICAL COUNTERMEASURES AND PERSONNEL DEPLOYMENT

Introduction

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

Target

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

Qatar level of capabilities

Qatar has no pharmaceutical companies and must resort to importation of its medical logistics needs from its neighbouring countries. The stockpile of medical logistics is centrally stored and distributed nationwide by the HMC through its Material Management Department based on the needs reflected in the emergency preparedness plan of health facilities. A national stockpile to include countermeasures is still in the process of development, although a limited stockpile of countermeasures for IHR-related hazards such as CBRN threats exists. To send and receive countermeasures from external sources, Qatar follows existing regional agreements, such as those with the GCC Logistics Centre in Kuwait.

With regards to the sending and receiving health personnel during public health emergencies, Qatar has not yet drafted its National Personnel Deployment Plan.

Recommendations for priority actions

1. **Sending and receiving medical countermeasures during public health emergencies**

- Create an inventory and map of countermeasure resources locally, regionally, and internationally for the country's access in times of need.
- Develop national health policies/guidelines/SOPs to govern the countermeasure management system, such as memoranda of understanding, especially with external partners.
- Establish a national stockpile for health to include countermeasures for IHR-related hazards like CBRN.
- Establish integrated stockpiling of CBRN-related logistics among health sector members.
- Develop policy/ guidelines for the management and utilization of a CBRN-related stockpile.
- Develop a formal policy on the management of foreign donations.

2. **Sending and receiving health personnel during public health emergencies**

- Develop a national deployment policy and plan regarding sending local and receiving foreign teams for humanitarian response during public health emergencies of national and international concern.
- Organize an integrated, trained and equipped multidisciplinary national response team (contingent team) for national, external or international deployment purposes.

- Strengthen partnerships with the WHO Global Outbreak Alert and Response Network and other foreign or international humanitarian response organizations.
- MOPH should take the lead in coordination, collaboration, network building and interoperability with local and international partners and systems especially in the area of health-related CBRN management.

Indicators and scores

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

Score 4: Demonstrated capacity.

Strengths/best practices

- A system is in place to access, send, receive and distribute medical countermeasures, and manage security concerns (CBRN).
- A logistics management system is established to support public health emergency operations.
- A stockpile of countermeasures (HMC Materials Management Department) exists.
- Agreements exist with manufacturers to provide countermeasures during public health emergencies.
- A network is established with the GCC Logistics Centre in Kuwait.
- Arrangements are in place for regional countermeasures sharing (GCC Centre in Kuwait).

Areas that need strengthening/challenges

- There is a need for policy/guidelines/SOPs to govern the countermeasure system, e.g. memoranda of understanding, especially with external partners.
- National stockpiles for special IHR-related needs, such as CBRN hazards, should be expanded.
- Funds need to be accessible and available for the emergency acquisition of countermeasures.

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

Score 3: Developed capacity.

Strengths/best practices

- The Response Plan includes a system to access external services and experts through MoPH-PEC coordination.
- The Plan includes a guide in receiving health personnel (local/international) during public health emergencies (e.g. issuing credentials for personnel).
- Trained multidisciplinary teams can be organized for international deployment.
- The local and international mutual aid assistance system is contained in the National Health Emergency Management Plan.

Areas that need strengthening/challenges

- A National personnel deployment plan needs to be drafted.
- New partnerships and collaboration with international partners for humanitarian assistance need strengthening.
- There is a need for regulatory measures to receive external or foreign humanitarian assistance during public health emergencies.

Relevant documentation

- Qatar National Health Emergency Management Plan, 2015 (draft).

Risk communication

Introduction

Risk communications should be a multi-level and multi-faceted process which aims at helping stakeholders define risks, identify hazards, assess vulnerabilities and promote community resilience, thereby promoting the capacity to cope with an unfolding public health emergency. An essential part of risk communication is the dissemination of information to the public about health risks and events, such as outbreaks of diseases. For any communication about risk caused by a specific event to be effective, the social, religious, cultural, political and economic aspects associated with the event should be taken into account, as well as the voice of the affected population. Communications of this kind promote the establishment of appropriate prevention and control action through community-based interventions at individual, family and community levels. Disseminating the information through the appropriate channels is essential. Communication partners and stakeholders in the country need to be identified, and functional coordination and communication mechanisms should be established. In addition, the timely release of information and transparency in decision making are essential for building trust between authorities, populations and partners. Emergency communications plans need to be tested and updated as needed.

Target

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

Qatar level of capabilities

For several years, Qatar has shown a proactive approach to risk communication capacity-building. Past risk communication capacity assessments were voluntary and identified strengths, challenges and priority actions. Qatar's health sector and its partners have many of the assets needed for a robust risk communication system but must now coordinate their resources, address gaps in the system through evidence-based approaches and test the system through heath-sector and national emergency response exercises. Research should also be conducted to ensure that communication is effective and can be acted upon.

Qatar's health sector risk communication capacity has relied on informal processes and agreements or endorsed plans that do not address the entire health sector. A recent MoPH reorganization, coupled with newly coordinated communication management and a nationwide decree establishing a Government Communication Office should be soon followed by an endorsed health sector risk communication strategy. While there are 'best practice' community engagement programmes for Qatar's diverse population, such as the hard-to-reach single male workers, these activities should be integrated into the complete picture of Qatar's population.

Qatar's next step should be to develop a comprehensive risk communication strategy that connects and expands on existing capacities, focuses on bridging gaps with local research and evidence-based approaches, and is endorsed by the relevant national authorities. At this stage of Qatar's health sector development, solid mechanisms to support such a strategy will help avoid communication response mistakes that result in poor public health outcomes. It will also help Qatar remain on target to be a global model for risk communication practice.

Recommendations for priority actions

- Develop a health sector risk communication strategy that includes dedicated staff, sustained budget and contingency budget for emergency materials development; coordinated plans to address all public audiences through preferred/trusted channels with consistent messaging; connection with EOC structure as an activated Joint Information Centre that monitors and evaluates its response; surge capacity for emergencies; and a strengthened hotline, website, and social media for emergencies and non-emergencies.
- Create a risk communication response unit within the MoPH that echoes the above strategy and includes dedicated full-time staff with education and experience in risk communication, programme evaluation and health communication/education; ongoing competency based training programme; temporary surge staff from other communication units, universities and external partners to be activated to the Joint Information Centre during emergencies.
- Test risk communication response through health sector and national emergency exercises.
- Map Qatar's target audiences including the nearly 70% of non-native population with existing community engagement capacities. Following this mapping process, continue to address public communication and community engagement measures to identify population segments that lack access to health information due to language, literacy, work/life circumstances, etc.; conduct audience analysis research to ensure audiences are receiving information in ways that allow them to make informed decisions and take action; address systematic gaps by using best practices from other or new health information programmes /campaigns.
- Strengthen Qatar's community engagement outreach efforts by training field epidemiologists on community engagement processes; partnering with a local university to conduct audience research; providing a certificate programme for community engagement volunteers for emergencies.

Indicators and scores

R.5.1 Risk Communication Systems (plans, mechanisms, etc.)

Score 3: Developed capacity. Justification: Systems are in place within HMC but not yet unified with MoPH and PHCC. MoPH has several plans and strategies need approval to move forward in order to hire staff, unify public messaging and have a functional risk communication system to target population information needs. The Taskforce for Health Education and Communication, a multisectoral committee for health-related communication coordination, should serve as a model for further expansion. Once expanded and endorsed across health sector, the ranking will likely rise.

Strengths/best practices

- The MoPH has proactively addressed risk communication as a response measure.
- The Taskforce for Health Education and Communication, a multisectoral committee for health-related communication coordination, should serve as a model for further expansion.
- HMC has a detailed Major Incident Communications Plan that includes a 'Media and Family Communication Lead' and public communication outreach functions. This Plan could be broadened and used as the basis for a health sector emergency risk communication plan.
- The following management changes and government-wide agreements may help address the need for unified risk communication plans: the Government Communication Office (2015) and the Director of Communication Coordination between MoPH, HMC and PHCC.

Areas that need strengthening/challenges

- There is no endorsed health sector-wide risk communication plan or strategy. Risk communication plans have been written within the MOPH but have not been endorsed and may be outdated with recent health sector reorganization.
- Communication capacity, staff and plans (some endorsed, some not) exist within health sector units such as the MOPH, HMC and PHCC but remain focused on separate organizational objectives such as reputational management. Capacities should be integrated to address the health sector risk communication system.
- Risk communication plans and systems need to be included in national emergency response plans and health sector agreements.
- Risk communicator roles and responsibilities need to be determined within the health sector risk communication plan and staff hired to fill these roles.

R.5.2 Internal and Partner Communication and Coordination

Score 3: Developed capacity. Justification: Adoption of the forthcoming Government Communication Bureau in addition to coordinated management of MoPH, HMC and PHCC communication will address many challenges. The next steps will be to test partnership communication through joint emergency exercises. The Taskforce for Health Education and Communication should serve as a model for further expansion. Once expanded and endorsed across the health sector, the ranking will likely rise.

Strengths/best practices

- The Taskforce for Communication and Health Education has terms of reference with response and coordination agreements and health threat communication plans. This is a best practice and should be expanded as a health sector response body and formalized as such.
- Recent decrees and management changes may address the need for unified partner communication coordination, e.g. the Government Communication Office (2015) and the Director of Communication coordination between MoPH, HMC and PHCC.

Areas that need strengthening/challenges

- There is uncharted communication capacity in several health sector and partner organizations. The Taskforce for Health Education and Communication is a good start in this area but capacities must be identified and connected to a broader heath sector risk communication plan.
- Communication partnerships must be tested through joint emergency exercises.

R.5.3 Public Communication

Score 3: Developed capacity. Justification: MoPH, HMC, PHCC and Qatar Red Crescent Society have operational communications departments but should move to a coordinated strategy based on risk communication principles and an endorsed strategy.

Strengths/best practices

- Qatar, being a geographically small country, makes it easier to reach communities during an emergency.
- Qatar has a fairly controlled media. While not considered 'best practice' globally due to tendencies for lack of transparency, it can be a 'strength' in terms of ensuring consistent communication messages.
- MoPH has regular outreach efforts on popular television programmes.

Areas that need strengthening/challenges

- MoPH, HMC, PHCC and other partners have operational public communication departments that utilize television, print media, radio, internet and social media but should now be coordinated based on a health sector risk communication plan.
- Audience research should be conducted to determine preferred and trusted communication channels in order to ensure that health recommendations reach target populations in a rapid, efficient and cost-effective manner.
- Public communication response products (press releases, transcripts of interviews, website messaging, response to rumours, tracking of social media interactions, etc.) should be logged and tracked alongside the event and other response measures timeline. This would allow for evaluation during after-action reviews to contribute to the overall science base for risk communication while improving upon Qatar's future response efforts.

R.5.4 Communication Engagement with Affected Communities

Score: 3- Developed capacity. Justification: Many community engagement activities at different levels exist in Qatar but a mapping of audiences and activities is needed to identify gaps among hard-to-reach foreign worker populations. The system then needs to focus on audience research and a more decentralized approach by coordinating with partners to reach at-risk populations.

Strengths/best practices

- Qatar has community engagement capacity and best practices within MOPH, HMC, PHCC, Kulluna community program, Qatar Red Crescent Society, Qatar Petroleum and other partners that have targeted some populations with hotlines, information, education and communication materials and outreach efforts.
- Hard-to-reach populations may be accessible through mandatory health registry processes and dedicated nongovernmental organizations.
- A new disease surveillance system is due to be launched in 2017, which may allow for two-way communication with individuals or population segments in Qatar.

Areas that need strengthening/challenges

- To date, the health promotion section within the MoPH has little or no emergency response capacity.
- Community engagement efforts should be mapped against Qatar's populations to identify segments missed.
- Engagement activities are not currently sufficiently coordinated to ensure that information uses trusted resources that allow individuals to make informed decisions for the health and well-being of themselves and their families.
- Qatar MoPH recognizes that its field epidemiology force often is the first on the scene during an event and therefore should be trained on appropriate risk communication and community engagement techniques.
- Community engagement approaches should be tested to determine if information is understood and can be acted upon. The most effective approaches should be replicated. MOPH needs assistance to conduct community engagement research, perhaps by partnering with a local university to conduct community engagement research to determine preferred/trusted health information resources, literacy levels and whether or not existing information is understood and recommendations can be followed up.

- Surge capacity should be ensured for community engagement during emergencies. MoPH could provide a certificate programme for community engagement of volunteers for emergencies to include local university undergraduate health education majors and Masters in Public Health students.

R.5.5 Dynamic Listening and Rumour Management

Score 3: Developed capacity. Justification: Rumours and misinformation should be gathered from numerous sources (hotlines, community engagement, partners, etc.) and coordinated into decision-making and response actions to be managed at the source of the rumour with evidence-based information.

Strengths/best practices

- Several health sector organizations have hotlines and regular touch points with hard-to-reach populations to receive information from the public on misunderstandings regarding health recommendations and potentially harmful rumours.

Areas that need strengthening/challenges

- Some health sector hotlines, e.g. MOPH and HMC, receive complaints, reputational issues and misconceived perceptions and potentially harmful rumours about health recommendations. Such rumours and misinformation from all sources (hotlines, community engagement, partners, etc.) should be addressed through a coordinated health sector response with evidence-based information.

Relevant documentation

- Sub-Taskforce 3. Health Education and Communication Taskforce, 2015.
- Amiri Decision No. 15, Article No. 5 (2015) Establishment of the Government Communication Office.
- HMC Major Incident Communications Plan.
- Health Education: Hajj & Winter Diseases, 2015.
- IHR Assessment Mission, Qatar, 2013.
- National EPR plan for MERS_draft_Oct_17th_2015.
- Qatar EVD Assessment Mission- Short Report.
- Qatar Supreme Council of Health (formerly MOPH) Risk Communications Assessment Report April, 2015.

POINTS OF ENTRY

Introduction

All core capacities and potential hazards management apply to points of entry and thus enable the effective application of health measures to prevent the international spread of disease. States Parties are required to maintain core capacities at designated international airports and ports (and where justified for public health reasons, designated ground crossings), implementing specific measures required to manage a variety of public health risks.

Target

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

Level of Capabilities: Qatar

The State of Qatar is a peninsular jutting out into the Persian Gulf and sharing a land border with Saudi Arabia. It has six recognized PoE that support international traffic, and four seaports:

- Doha Port (Mwani Ports), used by general cargo ships and container vessels;
- Mesaieed Port (Qatar Petroleum), used by vessels in the oil/gas sector together with general cargo and container ships delivering goods to the designated Mesaieed industrial area;
- Ras Laffan Port (Qatar Petroleum), used by vessels in the oil/gas sector;
- Al Ruwais seaport , used by dhow-type vessels for smaller cargo trade;
- Hamad International Airport, a major international airport and the hub airport of Qatar Airways;
- Abu Samra ground crossing, the main land entry point to Qatar at the border with Saudi Arabia.

Although the mission focused on the capacity at the time of the field visit, two notable developments are relevant for consideration as part of the overall recommendations. Firstly, a new seaport (Hamad Port) will open in 2017, moving cargo traffic away from Doha Port. Secondly, Doha Port will develop as a dedicated cruise ship port, with a projected 80 cruise ships visiting annually by 2020. The recommendations in this report are valid for consideration for both of these developments. They will provide both opportunities for the State of Qatar but also new challenges from a public health perspective, which will need to be addressed.

Target

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

Qatar level of capabilities

For the three seaports, it was evident that a referral system was in place for the safe transfer of ill travellers to appropriate medical facilities (be these at the port itself or to a nearby hospital). Response times for the

emergency attendance of ambulances and trained staff were stated to be within 10 minutes of call receipt. This meant that, not only urgent cases could be responded to very quickly, but that clear reporting lines were in place from the initial points of receipt of suspected cases (principally the Vessel Control Centres) through to the emergency services. There was also demonstrable knowledge of the need for the ports to notify the MoPH of suspected cases and seek additional guidance of a potential public health emergency. However, despite the level of knowledge demonstrated at the ports, there was less evidence of a clear formal structure of roles and responsibilities between all stakeholders and integration between all relevant services. The National Health Emergency Plan could be a catalyst for this, but needs to be approved and then disseminated to all key stakeholders for integration with existing emergency plans.

There was also no evidence of systematic surveillance of vectors and reservoirs at PoE or programmed inspection of conveyances (ships and aircraft). The current strength of the country is clear when it comes to tackling emergencies and providing a robust medical response: a "can do" approach, which this could be held up as an example of best practice. However, preventative measures are an area that needs development.

Hamad International Airport, was opened during 2014 with high quality facilities. The airport is operated by management that maintains it well-equipped with trained personnel and necessary tools. The Aerodrome Emergency Plan is well developed including a specific chapter on public health emergencies which takes into consideration the IHR requirements as well as the International Civil Aviation Organization (ICAO) requirements for management of public health events for air travel. The airport authority demonstrated that public health emergency drills were carried out on a regular basis and that relevant staff have received appropriate training.

Hamad international airport includes three clinics run by the HMC with sufficient medical staff and equipment. There are procedures in place for the transfer of ill passengers to the central hospital at Doha.

The airport rescue and fire stations operated and managed by the Civil Aviation Authority are well equipped with modern ambulances and trained staff to address public health emergencies. The airport terminal is equipped with thermal cameras for screening of arriving passengers from areas that have suspected cases of communicable diseases of concern.

The airport wildlife section has procedures for vector control on a regular basis by specialized contractors. The cargo terminal has representations from the Ministry of Agriculture and MoME and necessary procedures to ensure the control of health issues related to the travel of live animals and dead human bodies.

The State of Qatar has not had to face a major public health emergency to date, though simulation exercises have been carried out. It is thus not possible to evaluate fully the effectiveness of the PoE and the surge capacity of the systems, an issue raised by one stakeholder as needing to be addressed.

Mesaieed Port complies with the International Maritime Declaration of Health as every vessel calling to the port has to submit a copy of the International Maritime Declaration of Health. This declaration responds to nine health questions: NO means no health risks, and in the case of any YES to a health risk question, Mesaieed Port shall not grant entry to vessel and shall notify the health authorities to screen the vessel; no one is permitted to board the vessel unless it is confirmed fit by the health authorities.

Recommendations for priority actions

- Approve the National Health Emergency Plan, test and disseminate it to all key stakeholders, and integrate it within other plans to provide an effective all-hazards response when required.
- Leading from this, identify any lack of resources necessary to tackle surge capacity, considering not just public health emergencies but other health events that may put pressure on resources (e.g. a norovirus outbreak on a cruise ship).

- The IHR NFP should notify WHO of all ports designated under IHR and notify all key stakeholders of this decision. There is no technical reason why the four ports inspected cannot meet the core capacities.
- Separately, the IHR NFP should notify WHO of seaports for which they wish to receive Ship Sanitation Certificates (SSCs) and which type of certificate each port will be authorized to issue.
- Authorizations based on the national legislation should be given to appropriate ports and stakeholders to issue SSCs.
- Risk assess PoEs for likely vector reservoirs, and implement a suitable inspection programme to control the assessed risks.
- The MoPH should enhance its oversight functions at PoEs to ensure implementation of the international and national health regulations and recommendations. Although Qatar PoE operators have a well-established system for IHR implementation, the Government should assume the regulatory and supervisory role. Therefore, availability of sufficient qualified and trained staff is essential.
- MoPH to request WHO to assign designated Qatari ports to issue SSCs/sanitation exemption or extension certificates, and to approve the designated ports to delegate Qatari companies that are recognized by MoPH to issue such certificates.
- Enhance the regulatory and supervisory role of the MoPH to implement IHR in ports.
- Provide basic and recurrent training to MoPH personnel involved in PoE inspection and oversight.
- The WHO recommended exit screening in addition to entry screening for travellers with a suspected communicable disease could be interim conditions as and when needed.

Indicators and scores

PoE.1 Routine capacities are established at PoE

Score 3: Developed capacity. The first three technical indicators are agreed to have been met. However, indicator 4 (vector control programs and surveillance) is not in place at all seaport PoEs. Similarly, no inspection programme for vessels for sanitation purposes is in place, either legally or in practice. Indicator 4 is deemed to be met at the airport, but as separate scores are not appropriate in a national evaluation, the score of 3 prevails.

Strengths/best practices

- Qatar has a strong and established medical system that can respond quickly to emergencies and clear working practices are in place to deal with ill travellers reported to PoEs.
- A clear "can do" approach was given by stakeholders in interviews. For example, a solution to the need for removal of a suspected Ebola virus victim at Ras Laffan Industrial City was to provide an emergency ambulance on a flatbed boat.
- Sufficient resources seemed to be in place to deal with expected emergencies for the type and level of traffic at the ports.
- A regular programme for vector control is implemented at Hamad International Airport by specialized contractors that are affiliated to the wildlife management section.
- There is a desire (and technical capability) for seaports to provide an inspection service for ships and issue SSCs. Different models may be suitable for different ports. For example, Qatar Petroleum advised they had access to private companies that could provide such inspection services; Doha Port considered that such a service may be provided by Ministry of Transport inspectors. In either case, MoPH needs to discuss the issue with the ports, assess the best solution and authorize the service

accordingly. A number of officers attended a WHO course on SSC in Qatar in 2013, and other training (e.g. e-learning) and technical forums exist (e.g. Ports, Airports and Ground Crossing Network, PAGNet) to help support officers. With respect to resources, health checks (including inspection of vessels) can be cost-recovered from the conveyance operator (Article 41 of the IHR 2005). This system is well established with regard to ship inspections, but perhaps less so for the airline sector.

Areas that need strengthening/challenges

- Greater emphasis now needs to be placed upon surveillance at PoEs that can help inform the level of potential risk and ensure appropriate resources and responses can be applied. This is not necessarily a large financial investment, rather a need for coordination inspection for routine processes. Specifically, a programme of assessment and monitoring for vectors and potential reservoirs should be implemented (the newly published WHO guide on surveillance of vectors at seaports, airports and other PoE will be useful in this respect).
- Linked to this is the need to carry out vessel inspections at seaports for ship sanitation purposes. This service is in demand by both shipping lines and operators (SSCs need to be issued every six months from authorized ports) and a means to obtain information on potential risks that may not otherwise be found or notified (e.g. Legionella cases on vessels). While the JEE focuses on the current capacity, other challenges and opportunities will arise with the opening of the new cruise terminal at Doha Port and the new Hamad Port. By putting into place a monitoring and inspection process now, the opportunity is seized to be better prepared for outbreaks of illness (and not necessarily those of a public health emergency of international concern). Links could start to be built with organizations that could also provide support and technical experience in these fields (e.g. the EU SHIPSAN ACT project, US Vessel Sanitation Program).
- The country needs to have qualified trained personnel to carry out inspections at the airports through a regular programme to ensure availability of routine capacity.

PoE.2 Effective Public Health Response at Points of Entry

Score 3: Developed capacity. This score is based on the justification that, of the first four technical questions in this area, questions 1, 3 and 4 are considered to be met. Question 2 (integration of the National Health Emergency Plan) is recognized by the self-assessment as requiring more integration with other plans from an all-hazards perspective. It follows that the evaluation of the effectiveness of the Plan in responding to public health events at PoEs (Question 5) cannot yet be fully carried out. In the absence of specific public health events at ports, simulation exercises could be carried out with all parties integrated into such plans to test the effectiveness and identify any weaknesses to address.

Strengths/best practices

- Strong medical capacity and capability exist in Qatar along with good on-the-ground knowledge of what to do and who to contact.
- Medical facilities at Ras Laffan are modern, well equipped and capable of taking diverted cases from Mesaieed Port where required. The location of Doha Port means that rapid access to medical facilities in the city and rapid response times in emergencies are achievable.
- Written working procedures are in place at each port and staff were clearly knowledgeable on them.
- The Aerodrome Emergency Plan includes a comprehensive chapter to address public health emergencies that takes into consideration the WHO and ICAO requirements.
- The airport has procedures for transfer of ill travellers to appropriate medical facilities (HMC).

- The airport includes three medical clinics run by HMC to ensure proper coordination with the central HMC hospital. In addition, landside and airside are covered by two ambulance units manned by HMC ambulance service paramedic staff; seven paramedic bike teams and two medical golf carts are also available inside the passenger terminal on a 24/7 basis.

Areas that need strengthening/challenges

- Coordination is needed at MoPH to ensure that roles and responsibilities of all stakeholders are formalized. This will require the formalizing and dissemination of the National Health Emergency Plan to all relevant stakeholders and its integration within their separate plans, SOPs and memoranda of understanding, where necessary. MoPH will need to have a clear role in overseeing this process. However, some areas of the Plan may need the greater involvement of some stakeholders (for example where there are national security issues or matters of commercial confidentiality). Different models may be necessary for different hazards/ports but overall, MoPH should coordinate public health matters.
- Ensure availability of trained qualified personnel from MoPH to evaluate the effectiveness of PoEs in responding to public health events at the airport.

Relevant documentation

- International Health Regulations (2005).
- National Health Emergency Plan.
- Hamad International Airport Emergency Plan.
- Doha Port Facility Security Plan.
- Qatar Petroleum Medical Algorithms.
- WHO Handbook on the Inspection of Ships and Issuance of Ship Sanitation Certificates.
- WHO Handbook on Vector Surveillance and Control at Ports, Airports and Ground Crossings.
- Agenda for WHO Ship Sanitation Inspection Training Course, Doha, 2013.
- Presentation from Qatar Petroleum – "Implementation of IHR (2005) in Mesaieed Port".

CHEMICAL EVENTS

Introduction

Prevention of uncontrolled hazardous chemical events posing a significant threat to public health, service sectors and infrastructure requires timely mobilization of a coordinated multi-agency response. The State parties are therefore required to have surveillance and response capacity for chemical risk or events through effective communication and collaboration among the sectors responsible for chemical safety, industries, transportation and safe disposal including health protection.

Target

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

Qatar level of capabilities

Chemical safety in Qatar is a joint responsibility between Ministry of Interior, MoME, Ministry of Defense, Qatar Petroleum Corporation, Ministry of Industry and MoPH.

A national intersectoral committee, the Permanent Emergency Committee, has been established composed of members from the different relevant stakeholders. Adequate and requisite communication and coordination for activities in the context of chemical events management is in the process of being established.

The global treaties and conventions concerning hazardous chemicals and chemical safety like the Rotterdam Convention on Prior Informed Consent Procedure, the Stockholm Convention on Persistent Organic Pollutants, and the Strategic Approach to International Chemicals Management, etc. have been ratified.

Comprehensive legislation is in place in Law 30 of 2002 under which operational procedures and organizational frameworks have been defined and formulated. The Law is currently being updated by the Chemical Department in the MoME. The Chemical Department is also responsible for issuing licensing for import, storage facility and use of chemicals in Qatar. The regulatory monitoring of these entities, leftover stockpiles and chemical waste is also undertaken. In line with other sectors, a plan for surveillance and response to chemical events, guidelines or manuals on the surveillance, assessment and management of chemical events, has been developed by MoME under the overall direction of the PEC.

The Civil Defense Department (CDD) is the first responder in any kind of chemical event; it follows the guidelines and protocols developed by MoME for categorization of the nature of chemical injury and responds accordingly. Competent and skilled personnel are available in the Ambulance Service and Emergency Department of HMC to handle such cases.

The alert is generated through the emergency number '999' and is directly responded to in the first instance, through CDD, by the Ambulance Service and Emergency Medical Service of HMC. Under the established protocol, at least two 'major incident' teams are assigned on a daily basis in the HMC, comprising a staff of doctors and nurses that are rotated and assigned to a major incident team. The SOPs align with the overall hospital plan for case management of chemical and radiation injuries and are developed by the Disaster Management Team of HMC. The Disaster Management Team consists of two qualified staff with a Master's Degree in disaster management. There is a facility to decontaminate and isolate patients depending on the need and nature of the chemical or radiation injury. Hazardous substance and case management training, including drills, are mandatory for HMC staff dealing with such patients.

The National Command Centre of the Ambulance Service decides and informs on the incident to HMC where the Executive (on-call senior doctor) will categorize the incident as major or minor.

The trauma centre in HMC collects and submits data on road traffic accidents, chemical and radiation injuries to the MoPH. However, an established reporting mechanism for information exchange and sharing between the CDD, MoME and MoPH is not in place. On 6 May 2016, HMC operationalized the Cerner® data client-based system for patient profiling.

Surveillance and environmental monitoring for air quality, water and soil to monitor persistent organic pollutants is also undertaken by the central laboratory in MoME. Food products are monitored for hazardous chemicals by the MoPH. There was insufficient information on integrated surveillance and early alerting protocol between relevant industry, regulatory authorities, emergency responders/services and health sectors to rapidly detect and contain accidental, natural or deliberate releases.

The National Chemical Management Profile has been defined by MoME; a separate chemical profile has also been developed by Qatar Petroleum Corporation.

Strategic stockpiles of essential medicines and other needed drugs are maintained in the country as part of the national emergency preparedness and response requirement. There is no pharmaceutical sector in Qatar; however, in emergency situations supplies are brought in from other GCC countries. Surge capacity in HMC is sufficient for medical personnel to respond to emergencies.

In general, the systematic approach has yet to be adopted in the management of chemical sectors by utilizing infrastructure and experiences available in the country.

Recommendations for priority actions

- Improve information sharing between different stakeholders, MoME and MoPH.
- Develop chemical incident surveillance and monitoring.
- Enhance laboratory capacity for detection and analysis of hazardous chemicals affecting human and environmental health.

Indicators and scores

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

Score 3: Developed capacity.

Strengths/best practices

- Comprehensive legislation exists under Law 30 of 2002.
- Key international chemical conventions/agreements have been ratified.
- Permanent Emergency Committee is established.
- Chemical surveillance is in place for chemical events, intoxication, and poisonings, including guidelines or manuals on their surveillance, assessment and management.
- Chemical and radiological events are being reported to the Ministry of Interior and HMC.
- Capacity exits to report on chemical events as event-based surveillance in the National Qatari Disease Surveillance System but currently no surveillance data on chemical events are being reported in this system; laboratory capacity or access to this for confirmation and analysis of priority chemical events is available in both the MoME and MoPH.

- There is a coordinated response to significant industrial accident/chemical events.
- An emergency unit to handle chemical poisoning is available at hospitals.
- Chemical safety assessment surveys are carried out.
- Sufficient financial resources can be promptly mobilized during enhanced needs in emergencies.

Areas that need strengthening/challenges

- The Emergency Department of HMC is the only reference health facility for dealing with chemical and radiation injuries.
- Human resources are insufficient to meet the needs for chemical safety.
- Increased information sharing and joint discussions between relevant entities should be encouraged. However, information sharing is hampered by confidentiality and sensitivity between different stakeholders.
- Competency-based training is needed for CDD to respond to chemicals events. Competency gaps also exist in health-care responders and chemical incident/frontline responders.
- Joint training is needed for a coordinated response of MoPH, MoME and the Emergency Department of HMC to ensure a multi-agency approach to manage chemical and radiation threats and injuries.
- Coordination should include industries, trade, regulation, and planning to ensure a multi-agency approach to develop good practices in proactively managing chemical security threats.
- Laboratory capacity should be improved in both the MoME and the health sector for detection and analysis.
- Awareness and advocacy on chemical hazards is needed among the general public, first responders and health-care providers.
- The is a lack of research on the presence of harmful levels of chemicals in food, soil, air and water (levels of dichlorodiphenyltrichloroethane; DDT).
- Neither a chemical poison centre nor a chemical information position centre exists in the country; however, a proposal for a poison centre has been submitted for approval.
- An inventory and risk profiling should be carried out of chemical stockpiles and industries that present potentially significant risks to public health.
- Safety and security of a waste disposal system and facilities for hazardous chemicals need to be reviewed and safe options for waste management should be developed and established.

CE.2 Enabling environment is in place for management of chemical Events

Score 3: Developed capacity.

Strengths/best practices

- PEC is in place for overall coordination and oversight between different sectors.
- Legislation on chemicals provides comprehensive legal coverage with interagency operability between several coordinating bodies, including MoME, CDD, Ministry of Defense and PEC. These entities work together with regards to chemical events.
- Data on disease surveillance and reported chemical events are utilized by the MoPH to develop requisite communication and advocacy campaigns for the public.

- An emergency response plan that defines the roles and responsibilities of relevant agencies is in place, including an inventory of major hazard sites and health facilities.
- An action plan for public health safety exists in the event of chemical incidents/emergencies.
- A National Chemicals Management Profile is available.
- There is provision for mobilization of an emergency budget.
- An audit evaluation system is in place.
- Qatar is linked to international chemical and toxicological networks, and a chemical database is available at all times.
- There are national coordinating bodies for pesticide safety management, environment protection and disaster management.

Areas that need strengthening/challenges

- An integrated coordination mechanism is needed for systematic information sharing between the coordinating entities involved in chemicals, surveillance, emergency response and provision of health services.
- Risk-based contingency plans should be developed with input from public health professionals.
- At least one hospital should be considered as a reference facility to handle chemically contaminated or poison patients, resourced with the necessary logistics and know-how.
- Lab facilities available at public, private and research sectors should be linked with national environmental surveillance, including those in place for quality monitoring of drinking water, to provide rapid identification of acute, fast-evolving as well as protracted chemical events.
- There is an urgent need for training for health-care staff on chemical risk assessments and medical toxicology. This could include the development of a laboratory facility capable of performing qualitative and quantitative toxicology.
- Telephone based/online toxicology advisory services should be set up, along with the establishment of a toxicology alert system within MoME or MoPH and hospitals.

Relevant documentation

- Sectoral Emergency Plans.
- Databases for Risk Mapping.
- MoME databases.

RADIATION EMERGENCIES

Introduction

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

Target

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

Qatar level of capabilities

Qatar has the necessary infrastructure and legal basis for implementing international standards and requirements for nuclear emergency preparedness and response, as described in the jointly sponsored safety standards issued by the International Atomic Energy Agency.[1]

The MoMe Radiation and Chemicals Protection Department (RCPD) has the following roles: (i) regulation, by Decree 31 of 2002, currently being updated); (ii) licensing; (iii) EPR oversight and (iv) policy development. A full list of its functions is available on their website (www.mme.gov.qa/cui/view.dox?id=1453&siteID=2&contentID=3838).

MoME's Emergency Operation Centre and RCPD develop relevant policies, plans, protocols and supervise response in the field, but do not have a field response role per se.

Qatar is highly dependent on imported food and therefore management of food safety to ensure consumer protection is a priority. National arrangements to monitor radioactivity levels in imported food and drinking water have been put in place. According to RCPD self-reporting, monitoring is done on an ad hoc basis rather than routine monitoring of radioactivity in food.

The technical capability of the Central Food Laboratory, operated by the MoPH, is supported through IAEA Technical Cooperation project QAT/5/004. The project focused on enhancements to the Laboratory so that it can analyse food and drinking water to ensure it is free from radioactive contamination and in compliance with permitted radioactivity levels established by national regulations. Through this project, the CFL was equipped and staff were trained to analyse drinking water with a liquid scintillation counter.

Monitoring of the radioactivity concentration in drinking water is not routinely done nationwide, but at one entry point of the water desalination facility.

Since Qatar is interested in entering the nuclear age, cooperation with IAEA to strengthen national infrastructure for nuclear safety and ensure compliance with international requirements for nuclear safety is crucial. The interviewed colleagues at MoME indicated that radiation risks of main concern for Qatar may include:

- radiological emergencies (industrial, medical use, transportation accidents, malevolent events and those of non-nuclear origin);
- a nuclear submarine accident scenario;

[1] Preparedness and response for a nuclear or radiological emergency – General safety requirements (No. GSR Part 7). Vienna: International Atomic Energy Agency; 2015.

- a nuclear accident at the future Baraka nuclear power plant in the United Arab Emirates that will come into exploitation in 2017.

It was indicated during the interview with RCPD that improving the planning for a potential nuclear accident at the plant in the United Arab Emirates would require support to emergency planning through the simulation/ modelling of various scenarios of a nuclear power plant accident. This would need input on the technical parameters of the nuclear installation, which are not currently available.

The national plan for preparedness and response was not available in English. It was indicated that national arrangements exist and are compatible, consistent with, and integrated in the overall GCC's regional plan for preparedness and response to radiological emergencies and nuclear accidents. The JEE mission had no means to evaluate these arrangements, as documentation was not made available to the reviewers.

The interview with the staff of the Civil Defense Department of the Ministry of Interior indicated adequate staff expertise and knowledge about the first response countermeasures in case of radiation emergencies, such us conducting a survey, setting up a perimeter, triaging people, decontaminating, evacuation and sheltering. Training for first responders was reported to be provided on a regular basis, as well as drills and exercises based on a radiation emergency scenario (e.g. 2009 regional exercise with Bahrain).

In terms of other national capacities, internal contamination monitoring laboratories and skills do not seem to be available, but bilateral/regional arrangements are reported to be in place for mutual assistance for technical capabilities lacking in Qatar (verbal communication).

Training on EPR is available through various vehicles:

- IAEA technical cooperation project on national capacity-building in Qatar;
- Civil Defense conducts regular training and exercises for first responders, including for CBRN substances;
- Hamad Hospital's Emergency Department staff.

In case of an emergency, RCPD will not handle public communication as this function is delegated to the National Command Centre that will be set up in such an event.

Recommendations for priority actions

- Strengthen cross-sector, regional, and international coordination in areas relevant to radiation emergencies.
- Train health workers to strengthen the following capacities: awareness, diagnosis of a radiation injury, medical care to injured or contaminated patients; and advanced clinical management of persons exposed to high-dose radiation (acute radiation syndrome, local injuries, internal contamination, combined injuries).
- Develop individual dosimetry laboratory capacity (national or regional), including cytogenetic biodosimetry, internal contamination assessment, and dose reconstruction.
- Develop a national strategic stockpile (or arrangements for regional sharing) for radiation emergencies: update for agents used for treatment of internal contamination (calcium-Diethylenetriamine pentaacetate; Ca-DTPA, zinc-Diethylenetriamine pentaacetate; Zn-DTPA, Prussian blue etc.).
- Establish links with global expert networks for access to expertise, knowledge, exchange of information, learning and cooperation opportunities (WHO Radiation Emergency Medical Preparedness And Assistance Network; REMPAN, WHO-BioDoseNet).

Indicators and scores

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

Score 3: Developed capacity.

Strengths/best practices

The host country demonstrated a certain level of developed capacity to respond to radiation emergencies, including the following strengths/best practices:

- A national response plan and sector-specific plans, SOPs and arrangements exist, based on risk assessment, supported by appropriate legislation (Law 31, 2002).
- Adequate monitoring and response infrastructure (including a national radiation monitoring system, isotope identification, assessment, notification protocols) is in place under the responsibility of the national regulatory authority – the MoME Radiation and Chemical Protection Department.
- National civil defense and emergency medical services play important role in the first response and pre-hospital phase of response.
- CFL has capacity to detect, identify and measure radioactivity concentrations in food (in cooperation with IAEA).
- The designated health care facility (Hamad Hospital) has a strong capacity to provide clinical care for over-exposed persons, with dedicated facilities and trained human resources.
- CBRN training programmes are available, and exercises are conducted regularly.

RE.2 Enabling environment is in place for management of Radiation Emergencies

Score 3: Developed capacity

Strengths/best practices

- An international legal framework exists: two emergency conventions (notification and assistance) – 2005; and Revised International Health Regulations (IHR 2005) – 2007.
- There is commitment of the Government and a comprehensive national legislation basis supporting EPR implementation.
- Focal points and channels for coordination of emergency response with the health authorities are formally established, included in PEC.
- A risk-mapping and threat assessment was done and serves as a basis for EPR.
- Arrangements for responding to radio-nuclear emergencies are well integrated into the country's all-hazards emergency management system.
- The national EPR plan is integrated at the regional level in the GCC plan, and joint exercise programmes are established within GCC.
- International cooperation is in place with IAEA and ISR projects to strengthen preparedness and build national capacities for monitoring, detection and managing radiation emergencies, and human resource development.
- Advanced health-care facilities are available with high throughput capacity.
- Funding for EPR capacity-building activities is available.

Areas that need strengthening/challenges (RE.1 and RE.2)

- Recent developments triggered the need to update national legislation (Law No. 31), and response infrastructure is currently in the transition period from PEC to the new body, the Supreme Council for Civil Defense.
- Cross-sector coordination is crucial for efficient response to radiation emergencies; while functional mechanisms are in development, they will need further strengthening.
- Non-health sector stakeholders demonstrated somewhat low awareness of IHR and its requirements and implications.
- The roles and responsibilities within existing SOPs for linking pre-hospital and hospital responses may need further clarification.
- Laboratory capacity for cytogenetic biodosimetry exists but is not yet factored in the national response (i.e. the cytogenetic laboratory of the Canadian University College of North Atlantic in Doha).
- Internal contamination assessment and monitoring laboratory capacity needs to be improved by linking to regional or international resources, or by developing national capacity in Qatar.
- Expertise in the area of clinical management of radiation injuries (acute or cutaneous radiation syndrome, internal contamination, combined injuries), and long-term follow-up of over-exposed persons, should be strengthened through training programmes.
- The national stockpile does not yet include certain agents for management of internal contamination (DTPAs, Prussian blue etc.)

Relevant documentation

- Full list of functions: http://www.mme.gov.qa/cui/view.dox?id=1453&siteID=2&contentID=3838.
- http://www-pub.iaea.org/MTCD/Publications/PDF/EPR-Biodosimetry%202011_web.pdf.
- Radiation Protection Law No. 31, 2002 is being updated (http://www.iaea.org/inis/collection/NCLCollectionStore/_Public/38/085/38085260.pdf?r=1).
- Information about REMPAN at: http://www.who.int/ionizing_radiation/a_e/rempan/en/.
- Information about BioDoseNet at: http://www.who.int/ionizing_radiation/a_e/biodosenet/en/.
- Preparedness and response for a nuclear or radiological emergency. Generic Safety Requirements Part 7 – Vienna, IAEA, 2015, available at: http://www-pub.iaea.org/MTCD/publications/PDF/P_1708_web.pdf).

Annex 1: Joint external evaluation background

Mission place and dates

Doha, Qatar: 29 May – 2 June 2016

External evaluation team members

1. Rajesh Sreedharan, Technical Officer, IHR capacity assessment, Development and Maintenance, WHO headquarters
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4. Elizabeth Mumford, Technical Officer, Global Preparedness, Surveillance and Response (Zoonosis), WHO headquarters
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6. Farah Sabih, Technical Officer, WHO Office, Pakistan
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8. Rana Jawad Asghar, Director of Field Epidemiology Training Programme, Pakistan
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12. Marilyn Go, Former Director, Asian Disaster Preparedness Centre,
13. Adel Ramlawi, Regional Officer, Aerodromes, CAPSCA Regional Coordinator, ICAO MID Regional Office Cairo
14. Martin Walker, Port Health Officer, UK
15. Joanna Zwetyenga, Laboratory biosafety and Biosecurity Specialist and Quality Management System
16. Melinda Frost, Risk Communication Consultant

Objectives

- Assess the implementation of the IHR capacities for surveillance and response to public health events including at points of entry.
- Review all related documents.

- Develop a report describing the progress and gaps in implementing the IHR capacities.
- Recommend priority actions to update and finalize the national plan to achieve and maintain IHR capacities for global health security

The JEE process

The joint external evaluation process is a peer-to-peer review. As such, it is a collaborative effort between the host country experts and external evaluation team members. 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 external evaluation team members and host country experts seeking full agreement on all aspects of the final report findings and recommendations.

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

Preparation and implementation of the mission

- Prior to the visit, teleconferences were held with assessment team members and the Qatar host to review the agenda, responsibilities, and logistics.
- A national training course was conducted on 22–23 May 2016 to provide national stakeholders with the information and resources necessary to participate successfully in the JEE process, including guidance on self-reporting requirements and responsibilities for the process.
- Background documents were collected and shared with the JEE team along with the complete JEE tool for review.
- Meetings with the relevant stakeholders and field visits were conducted to validate the collected information.
- A national meeting with all stakeholders was conducted to reach a consensus on the scores and priority actions.
- A debriefing meeting with senior officials and national technical teams involved in the evaluation took place to present the outcomes of the JEE, best practices and priority actions.
- A press release was published in the local newspapers describing the participation of Qatar in the JEE and highlighting the main strengths, gaps and priority actions needed to support the country to meet the requirements of the 19 technical areas.

Limitations and assumptions

- The assessment was limited to one week, which limited the amount and depth of information that could be managed.
- The results of this assessment will be made publicly available.
- The assessment is not an audit and information provided by Qatar is not independently verified. Information provided by Qatar has been discussed and an assessment rating was mutually agreed to by Qatar and assessment team.

Key host country participants and institutions

Name	Affiliation
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