

JOINT EXTERNAL EVALUATION
OF IHR CORE CAPACITIES
of the
REPUBLIC OF IRAQ

Mission report:
12-17 March 2019



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ABBREVIATIONS

AMR	antimicrobial resistance
AWaRe	access, watch and reserve
BSC Class 2	Class 2 biosafety cabinets
BSL	bio safety level
CAC	Crisis Action Cells
CBRN	chemical/biological/radiological/nuclear
CPHL	Central Public Health Laboratory
CVL	Central Veterinary Laboratory
DQS	data quality self-assessment
EML	Essential Medicines List
EMPHNet	Eastern Mediterranean Public Health Network
EMT	Emergency Medical Team
EOC	Emergency Operations Centre
EOC-NET	Public Health Emergency Operations Centre Network
EMT	Emergency Medical Team
EMVAP	EMRO Regional Vaccine Action Plan
EPI	expanded programme on immunization
EPR	emergency preparedness and response
EQA	external quality assessment
EVM	effective vaccine management
FAO	Food and Agriculture Organization of the United Nations
FETP	field epidemiology training programme
GAP	Global Action Plan
GEC	Governorate Emergency Cell
GLASS	Global Antimicrobial Resistance Surveillance System
GOARN	Global Outbreak Alert and Response Network
GVAP	Global Vaccine Action Plan
HAI	health care-associated infection
HR	human resources
IAEA	International Atomic Energy Agency
IHR	International Health Regulations (2005)
IMS	incident management system
INFOSAN	International Food Safety Authorities Network
INMA	Iraqi National Monitoring Authority
IPC	infection prevention and control
ISO	International Standards Organisation
ISST	Infectious Substances Shipping Training
IT	information technology
JEE	Joint External Evaluation

LQSI	Laboratory Quality Stepwise Implementation
MCV	measles-containing vaccine
MICS	multiple indicator cluster surveys
MoA	Ministry of Agriculture
MOC	Medical Operations centre
MoE	Ministry of Environment
MoF	Ministry of Finance
MoH	Ministry of Health
MoHER	Ministry of Higher Education and Research
Mol	Ministry of Interior
MoP	Ministry of Planning
MoT	Ministry of Trade
NAP-AMR	National Action Plan on Antimicrobial Resistance
NBMC	National Biorisk Management Committee
NCC	National Coordination Centre
NFP	National Focal Point
NMOC	National Medical Operations Centre
NOC	National Operations Centre
NRL	National Reference Laboratory
OIE	World Organisation for Animal Health
OPCW	Organization for the Prohibition of Chemical Weapons
PHEIC	Public Health Emergency of International Concern
PHEOC	Public Health Emergency Operations Centre
PHEP	Public Health Empowerment Programme
PoE	point of entry
RPC	Radiation Protection Centre
RC	risk communication
SARI	severe acute respiratory infection
SHF	simian haemorrhagic fever
SOP	standard operating procedure
ToRs	terms of reference
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNIDO	United Nations Industrial Development Organization
VHF	viral haemorrhagic fever
VPD	vaccine-preventable disease
VSSM	vaccine supplies stock management
WAHIS	World Animal Health Information System
WASH	water, sanitation and hygiene
WHO	World Health Organization

EXECUTIVE SUMMARY

Introduction

The Republic of Iraq is doubling its population every 23–25 years, increasing from 7.28 Million in 1960 to 38.28 Million in 2017. The burden of disease attributable to communicable diseases is 19.1%, noncommunicable diseases 61.6% and injuries 19.2% (2012). The proportion of out-of-pocket health expenditure is estimated to be 76.5% (2015), and the health workforce density is 9.4 physicians per 10 000 population (2017).

Iraq consists of 18 governorates, which includes three governorates in the semi-autonomous region of Kurdistan. The country has been in a state of emergency for decades. Iraq is susceptible to both natural and human-made disasters, which cause a significant loss of life, livelihoods and infrastructure, and reverse the development gains that have been achieved. The annual burden attributable to natural disasters averages 4.9 deaths per 100 000 inhabitants (1997–2016).

The Iraq Constitution mandates the state to protect health and social security, and a law has been enacted to endorse the decentralization of health services and their management. Since the 2003–2017 invasion the country has been pursuing a major state reform under a new constitution, as well as dealing with an ongoing and complex armed conflict. The health system in Iraq has been severely affected by this situation, as has the capacity for the early detection, investigation and response to public health events and emergencies. Considerable effort has been made to strengthen surveillance systems, including through the implementation of an electronic surveillance system at the central level with expansion to cover all administrative levels planned.

Emergency responses dominate the health sector and absorb most existing resources. Nevertheless, there have been parallel efforts to improve routine health care, public health functions and health system development. Furthermore, the Ministry of Health (MoH) is working on increasing the skills and capacities for emergency preparedness, as well as response and disaster risk reduction. The MoH has 10-year National Health Policy (2014–2023) and four-year National Health Strategic Plan (2018–2022).

The country is transitioning from the acute emergency stage into recovery. National health authorities and humanitarian actors are heavily involved in revitalizing health services in areas of return. The humanitarian response plans submitted by humanitarian organization in 2018 appealed for US\$ 67.4 million to finance response operations of the health cluster.

Findings from the joint external evaluation

The Joint External Evaluation (JEE) of Iraq revealed strengths and gaps in capacities across 19 technical areas. The mission comprised plenary discussion sessions and selected site visits held from 12–17 March 2019 in Baghdad City. Evaluation results were based on interactive discussions over Iraq's self-assessment using the JEE tool, technical presentations and background documents that were made available to the JEE team. The report catalogues the mutually agreed strengths, challenges and priority areas for improvement of International Health Regulations (IHR) (2005) implementation in the country. Two targeted missions took place to specifically assess antimicrobial resistance and food safety.

Cross-cutting issues

- The country has several coordination mechanisms focusing on preparedness and response. A review and update of these committees is needed with clear terms of reference and level of representation in order to meet the expected deliverables and strengthen multisectoral coordination for health security.
- Human resources emerged as a major gap across various technical areas. Although substantial human resources/capacities exist at the central level, their distribution at the various administrative levels must be reviewed and mapping according to public health needs.
- The country hosts around 20 mass gathering events annually. The number of pilgrims participating in these events ranges from three to twenty million. Thorough planning is required to enhance public health capacities and functions, and to safely accommodate the influxes of people. Implementing the priority actions identified by the JEE must also be considered in the context of such mass gatherings, as applicable.
- Risk assessment has been identified as an urgent requirement to cover all hazards, and as a prerequisite to planning and prioritizing support.
- Transfer from manual to computerized information and networking systems has been achieved at the central level. However, planning and resources need to be allocated to expand the computerized system to cover the various administrative levels in the country, in order to facilitate the real-time information as well as rapid and efficient decision-making.
- The country does not have a financing strategy for health emergencies. An urgent need exists to assess the financing situation in the country, review allocation of available resources to optimize financing of preparedness, and establish a mechanism to fast-track resource mobilization for emergency response.
- The Supreme Health Council was established in accordance with Public Health Law 89/1981. The mission recommends consideration to reactivate the council to function as the overarching entity for policy-making across health sector service providers.

Iraq has existing laws in many of the areas required to support core capacities under IHR. These laws are in need of review. Such a review should consider: whether they are fit for purpose (as many are almost 40 years old); if they align with each other in order to enable a seamless multi-hazard response; and whether they integrate vertically with national risk management powers under the National Risk Reduction Law. The Iraq Constitution enables the use of executive power to make regulations or instructions, which involves a simpler process than amending laws. It is recommended that laws be reviewed in the short to medium term, and that the more flexible executive power be considered for immediate use.

In 2010, the country established an IHR unit within the MoH to coordinate with all IHR-bound sectors. An IHR multisectoral technical committee was also established in the same year with representation from all IHR-related sectors. A committee to coordinate issues related to mass gathering events also exists, with defined functions. Other disease-specific coordination committees also exist. Reporting and coordination between sectors are present although very weak. Sharing information is not systematic and mainly occurs during crisis events rather than in a regular and continuous manner.

Iraq has developed multisectoral national action plan (NAP) on antimicrobial resistance (AMR), which is awaiting final approval. Implementation of the AMR NAP faces some challenges as there is currently no national surveillance of AMR pathogens under the 'One Health' approach, and no dedicated funding for AMR surveillance activities. A national infection prevention and control (IPC) programme and guidelines exist in the MoH and Ministry of Agriculture (MoA) but training and monitoring of IPC practices needs to be established in both human and animal health sectors. Efforts are ongoing to enforce the available regulations that ban dispensing of antibiotics without a physician prescription.

A rapid, effective response to zoonotic diseases requires extensive multisectoral collaboration and information management. In addition to a national multisectoral strategy for preparedness and response to zoonoses, formal coordination and information sharing mechanisms that involve all stakeholders should be developed and implemented. Zoonotic committees exist at the national and regional levels, but information sharing and collaboration needs to be improved, especially outside crisis situations.

A timely and effective response to water and foodborne hazards requires effective multisectoral collaboration and information management. A national multisectoral strategy for preparedness, coordination and information-sharing mechanisms should be established involving all food safety actors. Iraq food safety laboratories need to be reinforced to ensure quick responses to case clusters and help prevent outbreaks.

A multisectoral National Biorisk Management Committee (NBMC) was established in 2012 and is functioning actively. A comprehensive national biosafety and biosecurity regulatory framework has been developed and will be submitted for endorsement. However, ensuring facilities are suitable for laboratory operations and provide a safe working environment remains a challenge.

Immunization is mandatory in Iraq and is provided free of charge to all target populations regardless of their nationality. Routine immunization services are delivered through a fixed strategy involving 1748 health facilities. In addition, the programme has been implementing vaccination campaigns as part of the national vaccine preventable diseases control, elimination and eradication strategies, as well as multi-antigen campaigns to improve population immunity in high risk populations. Vaccine shortages have been reported at both the national and peripheral levels, highlighting important gaps in the vaccine forecasting, procurement and distribution systems. An estimated 40% of functioning facilities at the service delivery level do not provide immunization services.

As there are many stakeholders contributing to laboratory services – at national and sub-national levels as well as across sectors – there is a need to develop a national laboratory policy and strategy. The current poor status of many laboratory's infrastructure, malfunctioning and maintenance of key equipment, and difficulty in procuring reagents and validated kits, hamper their performance and accreditation against international or national standards. Given the current reliance of on in-country specimen referral, completion of a multisectoral simulation exercise is needed to further improve established mechanisms.

Indicator-based surveillance is performed through a mandatory notification system for priority diseases. The 1450 surveillance sites include all government hospitals. Event-based surveillance is yet to be fully implemented at the national and subnational levels. The signals that are passively detected by the system are followed up by the rapid response teams in accordance with the type of threat detected. The Epidemiology Department of the MoH has the capacity to analyse surveillance data and produce epidemiological reports.

The concept of notification under IHR is not fully understood within all sectors. Notification to WHO includes human infectious diseases only, but not diseases from other origins. Also, endemic diseases are not commonly notified at the time of outbreaks. The national IHR focal point responds to the verification requests received from WHO but not within the timeframe explained in Article 6 of the IHR.

The MoH directorate of planning and resources development has a multi-year strategy (2018–2022) for human resources. This strategy focuses on medical tracks and doesn't include the public health tracks essential for IHR implementation. The country offers some in-service opportunities, through a mix of regular and well-planned training courses as well as ad-hoc capacity-building workshops, supported mostly by partners. Since 2010, the country has been sustaining a national field epidemiology training programme (FETP), as a part of the Regional FETP Network, coordinated and supported by the Eastern Mediterranean Public Health Network (EMPHNET).

Iraq has been exposed to exceptional challenges and damage to infrastructure and its health system over the past couple of decades and has conducted a few risk assessments across various sectors, but has not conducted a comprehensive multi-hazard risk assessment with the associated resource-mapping across the whole country. The national response plan that exists at cabinet level defines reporting and information exchange and in Iraq. The National Strategy and Plan for Disaster Risk Reduction are currently being drafted.

There is a national disaster management framework at the level of the Prime Minister's Office that covers all hazards. This includes the National Operations Centre (NOC) that oversees the initial response through the crisis action cell at the national level, which coordinates the response with governorates through Governorate Emergency Cells. The latter are responsible for the initial response to any public health event or disaster, and surge capacity can be provided from the central government authority. The MoH has pursued the development of a number of documents that outline the policies, and guidelines for public health emergency management in Iraq.

Given the tightly interlinked nature of risk communication and health promotion, confusion often prevails regarding the two concepts when addressed by the national health authorities. There are no strategic documents, guidelines or standard operating procedures (SOPs) directly related to risk communication other than a draft national risk communication concept note. A governmental media cell has been created under the general secretariat of the Council of Ministers to lead and coordinate communications during emergencies. A spokesperson is appointed in each ministry, but roles and responsibilities are still not well defined in case of emergency responses. Coordination, standardization and uniform implementation of communication interventions at all levels (including rumour verification) are inadequate.

The country has 26 points of entry (PoE) that carry international traffic. Of which, only two are designated for IHR implementation. Several stakeholders serve at these points of entry, and a reasonable level of coordination between the stakeholders and routine IHR capacities exist at the designated points of entry. The designated PoEs have public health contingency plans for preparedness and response to public health emergencies, which are an integral part of the provincial public health emergency preparedness and response. Capacities including human resources to apply measures for effective responses to public health events and for cross-border collaboration need strengthening.

Capacity for detecting and responding to major chemical events is lacking and scattered between different stakeholders in Iraq. Guidelines, manuals and SOPs on surveillance, assessment and management of chemical events, intoxication and poisoning are available but fragmented among different stakeholders. The capacity of the poison centres is limited and not available 24/7. Surveillance of toxicity and human poisonings needs to be further strengthened. The current indicator and event-based surveillance systems do not capture chemical events and poisonings adequately.

Iraq's capacity to detect and respond to radiation and radio-nuclear events are developed. Nevertheless, SOPs, guidelines and health sector resources need to be strengthened for clinical management of radiation victims. A radiation emergency response plan exists with clear roles of related sectors, but the roles of the health sector need to be streamlined and clarified.

SCORES AND PRIORITY ACTIONS

Technical areas	Indicator no.	Indicator	Score	Priority Actions
PREVENT				
National legislation, policy and financing	P.1.1	The State has assessed, adjusted and aligned its domestic legislation, policies and administrative arrangements in all relevant sectors to enable compliance with the International Health Regulations (IHR) (2005)	2	Review Iraq laws to update laws and provide clarity about available powers, designations of responsibility and scope of powers across sectors. Use available constitutional powers to draft subordinate legislation or regulations, or instructions to provide more detail on: management of communicable disease (including meeting basic data collection requirements); quarantine; and arrangements to align with the National Strategy and Plan for Disaster Risk Reduction. Utilize executive power to make a regulation or instruction nominating the IHR National Focal Point (NFP) and setting out his or her powers and responsibilities and those of all focal points of affected agencies in support of this function.
	P.1.2	Financing is available for the implementation of IHR capacities	1	In the short to medium term, conduct a review to consider a new Public Health Law to be made by the Parliament to replace the 40-year-old existing law.
	P.1.3	A financing mechanism and funds are available for timely response to public health emergencies	1	
IHR coordination, communication and advocacy	P.2.1	A functional mechanism established for the coordination and integration of relevant sectors in the implementation of IHR	2	Establish an electronic platform for information sharing between IHR-bound sectors re. risk assessment and early interventions. Review terms of reference (ToR) of existing coordination mechanisms to ensure integration and clarity of roles and responsibilities. Conduct advocacy and training activities on IHR for IHR-bound sectors, with wide dissemination of related documents. Advocate for the representation of IHR NFP in high-level coordination structures with clear line of information sharing among the members of the IHR multisectoral committee. Organize regular drills/simulation exercises to test coordination and communication mechanisms including at points of entry (PoEs).
Antimicrobial resistance	P.3.1	Effective multisectoral coordination on antimicrobial resistance (AMR)	3	Approve, fund and implement the national antimicrobial resistance plan. Develop national AMR surveillance plans in both the human and animal sector.
	P.3.2	Surveillance of AMR	2	Update the national infection prevention and control (IPC) guidelines and train health care workers on its implementation.
	P.3.3	Infection prevention and control	2	Add antimicrobials to the national Essential Medicines List (EML), in line with the WHO guidelines.
	P.3.4	Optimize use of antimicrobial medicines in human and animal health and agriculture	1	Monitor appropriate use of antimicrobials in human and animal health and agricultural sectors.

Technical areas	Indicator no.	Indicator	Score	Priority Actions
Zoonotic disease	P.4.1	Coordinated surveillance systems in place in the animal health and public health sectors for zoonotic diseases/ pathogens identified as joint priorities	3	<p>Review and update the sector and level representation in the national zoonotic committee to ensure functionality. Ensure that the development of a 'One Health' strategy is among its responsibilities.</p> <p>Establish a joint surveillance plan with all relevant sectors under the One Health strategy.</p> <p>Based on assessment of training needs, offer training opportunities to veterinarians such as access to the field epidemiology training programme (FETP).</p>
	P.4.2	Mechanisms for responding to infectious and potential zoonotic diseases established and functional	1	<p>Expand active surveillance to cover all priority zoonotic diseases. Identify opportunities to fully apply compensation for diseased livestock.</p> <p>Upgrade laboratory capacity for the detection of zoonotic diseases.</p> <p>Review the existing plans for zoonotic disease preparedness and response to cover all priority zoonotic diseases.</p>
Food safety	P.5.1	Surveillance systems in place for the detection and monitoring of foodborne diseases and food contamination	2	<p>Finalize the plan of action based on the recommendations of WHO food safety mission.</p> <p>Establish clear procedures to improve the coordination between food safety actors.</p> <p>Integrate with the Arab League strategy on health and the environment.</p>
	P.5.2	Mechanisms are established and functioning for the response and management of food safety emergencies	2	<p>Disseminate International Food Safety Authorities Network (INFOSAN) focal point contact details among actors.</p> <p>Enhance in-country laboratory capacity for the identification of all foodborne and waterborne contaminants.</p>
Biosafety and biosecurity	P.6.1	Whole-of-government biosafety and biosecurity system in place for all sectors (including human, animal and agriculture facilities)	2	<p>Endorse and implement the national regulatory framework for biosafety and biosecurity.</p> <p>Provide (refresher) trainings in biosafety and biosecurity for laboratory staff in all sectors, including field staff. Areas of training to include attention to risk assessment and managing high-threat pathogens.</p>
	P.6.2	Biosafety and biosecurity training and practices in all relevant sectors (including human, animal and agriculture)	3	<p>Continue to maintain an updated inventory of dangerous pathogens and toxins.</p>

Technical areas	Indicator no.	Indicator	Score	Priority Actions
Immunization	P.7.1	Vaccine coverage (measles) as part of national programme	3	<p>Conduct an extensive mapping of potential new vaccine delivery opportunities to support the ongoing programme immunization network wherever needed to improve physical access.</p> <p>In order to prevent further vaccine stock-outs at both central and peripheral levels, use the opportunity of the support being provided by United Nations Children's Fund (UNICEF)/ Eastern Mediterranean Public Health Network (EMPHNET) to undertake a comprehensive assessment of the vaccine procurement system (within the forthcoming effective vaccine management (EVM) assessment), to identify major hurdles and undertake necessary correction measures.</p>
	P.7.2	National vaccine access and delivery	2	<p>Urgently address the data quality and accuracy problem through conducting a national coverage survey to get a better indication of the country achievement; and a data quality self-assessment (DQS) to identify weaknesses and improve the programme data management system.</p> <p>Expand the ongoing microplanning improvement process (capacity-building and 'micro-plans' development) to remaining districts and governorates, while improving mapping of low immunity population groups and areas and micro-plans updating accordingly.</p> <p>Update the national strategy and plans.</p>
DETECT				
National laboratory system	D.1.1	Laboratory testing for detection of priority diseases	4	<p>Develop, endorse and implement a national laboratory policy to guide future activities in a coordinated and sustainable manner, and by making optimal use of resources. Subsequently, to develop, endorse and implement a national laboratory strategic plan to translate the national laboratory policy into strategic objectives.</p>
	D.1.2	Specimen referral and transport system	4	<p>Develop, endorse and implement national laboratory quality standards that can be adapted and applied to laboratories throughout the country.</p>
	D.1.3	Effective national diagnostic network	2	<p>Conduct a situational analysis summarizing locations and capacities of key laboratories across the country serving different sectors, including public health, clinical, animal health, food safety, chemical and radiation, to support tier-specific testing strategies and national referral testing.</p>
	D.1.4	Laboratory quality system	2	<p>Test the functionality of the national specimen referral system through conducting a simulation exercise, specifically a 'skills drill'.</p>

Technical areas	Indicator no.	Indicator	Score	Priority Actions
Surveillance	D.2.1	Surveillance systems	2	Establish a database to capture all public health events. Formalize the current event-based surveillance system.
	D.2.2	Use of electronic tools	2	Integrate laboratory information into existing indicators and event-based surveillance.
	D.2.3	Analysis of surveillance data	3	Enhance in-country laboratory capacity to allow for the prompt identification of national priority pathogens.
Reporting	D.3.1	System for efficient reporting to FAO, OIE and WHO	2	Develop a policy and standard operating procedures (SOPs) for notification of a potential Public Health Emergency of International Concern (PHEIC) for all reporting entities, and from IHR NFP to WHO. Improve understanding of WHO, World Organisation for Animal Health (OIE) and Food and Agriculture Organization of the United Nations (FAO) notification/reporting requirements through multisectoral discussions.
	D.3.2	Reporting network and protocols in country	2	Disseminate information on roles and responsibilities of INFOSAN, World Animal Health Information System (WAHIS), International Atomic Energy Agency (IAEA) and IHR focal point to relevant stakeholders. Conduct training to enhance knowledge and use of the IHR decision instrument for the notification of potential all-hazard PHEIC. Review previous event compliance of IHR notification to identify gaps and recommend improvements.
Human resources (animal and human health sectors)	D.4.1	An up-to-date multi-sectoral workforce strategy is in place	2	Identify/develop an intersectoral mechanism to coordinate the exercise of developing, implementing, monitoring and sustaining an adequate intersectoral work force to implement IHR at all country administrative levels, through:
	D.4.2	Human resources are available to effectively implement IHR	2	• Establishing a sustainable incentive mechanism to attract and sustain a critical number of good quality experts in the various IHR capacities at the various country administrative levels.
	D.4.3	In-service trainings are available	3	• Developing adequate budgeted action plans in all IHR relevant sectors for in-service training to sustain HR capacities, building on available opportunities.
	D.4.4	FETP or other applied epidemiology training programme in place	4	• Accelerating, diversifying and expanding the country EMPHNET-supported FETP programme to laboratory, animal health (vets and animal health technicians) and environmental health in order to better respond to the priorities of various administrative levels more rapidly.

Technical areas	Indicator no.	Indicator	Score	Priority Actions
RESPOND				
Emergency preparedness	R.1.1	Strategic emergency risk assessments conducted and emergency resources identified and mapped	1	<p>Accelerate ongoing work for Sendai Framework for Disaster Risk Reduction by conducting national multi-hazard strategic risk assessment to prioritize public health threats, from all sources, and identify resource requirements for response activities.</p> <p>Map the resulting resource requirements for public health and identify critical information requirements (correlated to nationally notifiable diseases) for the national Public Health Emergency Operations Centre (PHEOC) within the National Medical Operations Centre (NMOC) to monitor on a daily basis.</p>
	R.1.2	National multisectoral multi-hazard emergency preparedness measures, including emergency response plans, are developed, implemented and tested	2	<p>Conduct a needs assessment for training needs (including material, equipment and infrastructure).</p> <p>Continue to engage the interministerial, intersectoral operations-level working group, including development partners, in reviewing the national public health response plan that reflects a whole-of-government approach to responding to priority public health threats.</p>
Emergency response operations	R.2.1	Emergency response coordination	4	<p>Establish a national poison registry.</p> <p>In view of the ongoing evaluation commissioned by H.E. Minister of Health and Environment, consider establishing a unique national emergency call number.</p>
	R.2.2	Emergency Operations Centre (EOC) capacities, procedures and plans	3	<p>Review and update standard terms of reference and operating principles while upgrading the EOC and consider joining the Public Health Emergency Operations Centre Network (EOC-NET).</p>
	R.2.3	Emergency Exercise Management Programme	3	<p>Establish routine after-outbreak or after-action reviews related to all public health events and document lessons learnt with outcomes reflected in updated response plans.</p>
Linking public health and security authorities	R.3.1	Public health and security authorities (e.g. law enforcement, border control, customs) linked during a suspect or confirmed biological, chemical or radiological event	3	<p>Plan and conduct joint training programmes between public health and security sectors, especially at the governorate levels.</p> <p>Document the collaboration between public health and security sectors in responding to public health threats.</p>

Technical areas	Indicator no.	Indicator	Score	Priority Actions
Medical counter-measures and personnel deployment	R.4.1	System in place for activating and coordinating medical countermeasures during a public health emergency	3	Ensure fast-track approval procedures are in place for sending and receiving medical countermeasures with allocated emergency funding.
	R.4.2	System in place for activating and coordinating health personnel during a public health emergency	1	Develop protocol/guidance/procedures for active participation in Global Outbreak Alert and Response Network (GOARN) and development of Emergency Medical Teams (EMTs).
	R.4.3	Case management procedures implemented for IHR relevant hazards	2	Develop and disseminate policies and protocols for sending and receiving personnel to other organizations/agencies in country and internationally to respond to public health events. Develop and provide training on case management guidelines for cases contaminated with chemical and radiation contamination.
Risk communication	R.5.1	Risk communication systems for unusual/unexpected events and emergencies	2	Develop a multisectoral and multi-hazard risk communication strategy and action plan that is integrated with national plans for public health emergencies.
	R.5.2	Internal and partner coordination for emergency risk communication	2	Establish a multisectoral and multi-disciplinary technical advisory board to guide evidence-based development and implementation of risk communication.
	R.5.3	Public communication for emergencies	1	Review and upgrade the structure and functions of the risk communication unit at MoH to better fulfil its mandate across all IHR-bound sectors.
	R.5.4	Communication engagement with affected communities	2	Formalize the existing risk communication coordination mechanism among relevant ministry's entities and stakeholders.
	R.5.5	Addressing perceptions, risky behaviours and misinformation	2	Establish a network and build the risk communication capacity of existing communication staff at national and provincial level. Develop and formalize a system for rumour and misinformation tracking and response.
IHR-RELATED HAZARDS AND POINTS OF ENTRY				
Points of entry (PoEs)	PoE.1	Routine capacities established at points of entry	3	Using the risk assessment approach, review and update the list of designated PoEs. Develop a plan for IHR implementation for designated PoE(s). Conduct cost-effectiveness analysis for goods storage sites (i.e. private versus governmental) to recommend reactivation of public storage sites.
	PoE.2	Effective public health response at points of entry	3	Ensure MoH is part of the 'single window' system for trade facilitation. Establish/integrate vector surveillance and control at designated PoE(s). Develop a training plan on IHR-related requirements for staff at PoE(s). Over the long term, develop a plan to renovate infrastructure.

Technical areas	Indicator no.	Indicator	Score	Priority Actions
Chemical events	CE.1	Mechanisms established and functioning for detecting and responding to chemical events or emergencies	2	<p>Identification of the most hazardous chemicals in Iraq through evidence-based multisectoral health risk assessments. These chemicals shall be the back bone of the national poisoning surveillance and clinical management systems.</p> <p>In close coordination with chemical/biological/radiological/nuclear (CBRN) teams, designating specific hospital(s) for clinical management of victims of chemical events. This will require training and supply of needed equipment, antidotes and other medicines.</p> <p>Strengthen the capacity of the poison consultation centre for providing information and advisory services 24/7 to all parts of Iraq. This requires networking with other poison centres at national and regional levels; in order to improve the technical capacity of existing surveillance, laboratories and linkages with response teams.</p>
	CE.2	Enabling environment in place for management of chemical events	2	<p>Improving the coordination between the different sectors responsible for management of chemical events in line with the multi-hazard national public health emergency preparedness and response plan to meet IHR core capacity requirements.</p> <p>Strengthening the capacities for chemical event detection, reporting and response.</p> <p>Updating the chemical waste management mechanisms and SOPs.</p>
Radiation emergencies	RE.1	Mechanisms established and functioning for detecting and responding to radiological and nuclear emergencies	3	<p>Update the national plan of action for responding to radiation hazards by streamlining and clarifying the role of the health sector in clinical management, surveillance and risk communication</p> <p>In close coordination with CBRN teams, designating specific hospital(s) for clinical management of victims of radiation and radio-nuclear emergencies. This will require training and supply of needed equipment, antidotes and other medicines.</p>
	RE.2	Enabling environment in place for management of radiological and nuclear emergencies	3	<p>Improving the coordination between health, environment, industry, science and technology, CBRN and other related sectors responsible for management of radiation and radio-nuclear events in line with the multi-hazard national public health emergency preparedness and response plan to meet IHR core capacity requirements.</p> <p>Improving the technical capacity of existing surveillance, laboratory and response teams, and networking with neighbouring countries for radiation and radio-nuclear event detection, reporting and response</p> <p>Updating the radioactive waste management mechanisms and standard operating procedures.</p>

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

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. 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.¹ In addition, policies that identify national structures and responsibilities as well as the allocation of adequate financial resources are also important.

Target

Adequate legal framework for States Parties to support and enable the implementation of all their obligations and rights made by the IHR. Development of new or modified legislation in some States Parties for the implementation of the Regulations. Where new or revised legislation may not be specifically required under a State Party's legal system, the State may revise some legislation, regulations or other instruments in order to facilitate their implementation in a more efficient, effective or beneficial manner. States Parties ensure provision of adequate funding for IHR implementation through the national budget or other mechanisms. Country has access to financial resources for the implementation of IHR capacities. Financing that can be accessed on time and distributed in response to public health emergencies, is available.

LEVEL OF CAPABILITIES

Iraq has made considerable efforts to comply with its obligations under the IHR (2005) and to prepare for the Joint External Evaluation (JEE). Iraq has many laws that have some impact on its ability to meet the JEE core capacities, which might be summarized as detect, assess, notify, report and respond.

Iraq has a Public Health Law No 89 (1981), which is the principal law to address management of communicable disease and health emergencies. It is an impressively modern and forward-thinking law, and all the more remarkable because it was passed in 1981, almost forty years ago. The law recognizes and attempts to give effect to the right to health, establishes a MoH Council which has broad planning and policy-making responsibility, and for the provision of instructions and guidance in the implementation of the law.

According to the law, the Council of the MoH also has a coordination role with similar councils at the provincial level. The extreme disruption caused by the war, sanctions and other system shocks since passage of the law has led to inevitable problems with its implementation. The MoH Council does not yet exist, and Iraq is experiencing problems in implementing the various rights and programmes the law embodies. Nonetheless, the Public Health Law is robust, and is capable of being amended to better suit Iraq's current health system, current health strategy and current health priorities.

¹ See detailed guidance on IHR (2005) implementation in national legislation at http://www.who.int/ihr/legal_issues/legislation/en/index.html.

Several relevant legislation reviews have already been undertaken.

A review of the provisions of the Public Health Law 1981, which provide powers to manage communicable diseases, has clearly been assessed with a view to incorporating capacity to respond under the IHR (2005). This is evidenced by provisions on the management of communicable disease, which refer to IHR and communicable disease management under IHR.

Iraq MoH reports that the Public Health Law is currently under review to improve core capacities under IHR and for other system purposes, noting that it is almost forty years old. It is understood that the review is considering more immediate promulgation of subordinate legislation such as issuance of rules, instructions and decisions for the purpose of implementing the law. The review is also considering amendments to the principal law to be eventually made by Parliament. No copy of the review and amendment instruction has been provided to date so no comment may be made on its content.

The Public Health Law is also being separately reviewed for its provisions in relation to food safety and the management of foodborne diseases. The review of food safety, including regulatory support, was recently undertaken by WHO and made recommendations as to the development of a stand-alone modern food law.

In 2013, the United Nations Development Programme (UNDP) undertook a review of Iraq's legislative framework for disaster risk response. That review is a useful resource in assisting Iraq to consider use of legislation to meet core capacities under IHR.

The MoH National Health Policy 2014–2023 also mentions the need for legislation review to improve governance and the function of the MoH.

The Iraq Constitution provides some powers to declare a state of emergency, but these require Parliament to meet and a high proportion of votes in support. This might be both too cumbersome and too slow, and may be subject to political agendas. The Constitution also protects rights, which may be inconsistent with some of the powers in the Public Health Law. This should be considered in any review, as the Constitution will always prevail, potentially reducing available power under the Public Health Law.

Iraq has capacity in relation to management of communicable disease and reports that the relevant provisions in the Public Health Law 1981 were successfully used by the MoH to address pandemic influenza in 2009. It provided power to take necessary steps such as the closure of schools.

Despite this, the provisions to manage communicable diseases are weak and in need of updating.

Indicators and scores

P.1.1 The State has assessed, adjusted and aligned its domestic legislation, policies and administrative arrangements in all relevant sectors to enable compliance with the IHR – Score 2

Strengths and best practices

- The Public Health Law 1981 is a strong law that is capable of being amended to better suit Iraq's current health system, current health strategy and current health priorities.
- The Constitution enables the use of executive power to issue regulations or instructions, which is easier than development of a new law.
- Several relevant legislation reviews have already been undertaken and may be used to identify and address current gaps in the legislative framework.
- The MoH reports intersectoral collaboration including with international organizations and donors, although this could be strengthened.

Areas that need strengthening and challenges

- It is suggested that the Law would benefit from regulations or instructions providing considerably more detail about available powers to manage communicable diseases and other health risks; the circumstances in which the powers may be exercised; the scope of the powers and the rights and responsibilities of those charged with the powers and those subject to/affected by them.
- The Law could also be strengthened in the areas of support for the disease control function of identification of risk, reporting and data collection.
- It is understood that drafting instructions for amendments to the Public Health Law have been developed but these have not been seen by the JEE team, so no comment may be made on the extent to which they fill the identified gaps.
- There is also a gap in relation to quarantine laws governing risk management activities at borders and ground crossings. The Animal Health Law No. 32 (2013) covers animal but not human quarantine.
- There are gaps in relation to management of foodborne diseases and these are currently being addressed.
- Laws to manage safety in the use, transport, disposal etc of radiation sources and chemicals exist but are close to forty years old, so a review of laws covering these areas is suggested, if action is not already being taken in these areas.
- Intersectoral collaboration is required in relation to alignment of laws, cooperation during risk responses and/or national emergency responses, and in data gathering and sharing.

P.1.2 Financing is available for the implementation of IHR capacities – Score 1

- Financing is provided from the budget of the MoH. Requests may be made for additional budget from cabinet to deal with specific emergencies.
- This is not an ideal arrangement to ensure availability of adequate funds to reach core capacities under IHR.
- Financing remains inadequate for responding and needs more strengthening.
- Domestic financing is still insufficient for responding to emergencies.
- No proportion of the national health budget has been delineated for these purposes.

Strengths and best practices

- MoH commitment to support improvement in financing mechanisms.

Areas that need strengthening and challenges

- Domestic financing is still insufficient for responding to emergencies.
- There is a need to delineate a proportion of the national health budget for these purposes.

P. 1.3 A financing mechanism and funds are available for the timely response to public health emergencies – Score 1

- Financing is provided from the budget of the MoH. Requests may be made for additional budget from cabinet to deal with specific emergencies.
- There is no specific financing mechanism available for the timely response to public health emergencies.

Strengths and best practices

- MoH commitment to support improvement in financing mechanisms.

Areas that need strengthening and challenges

- Iraq needs a financing mechanism with available funds for the timely response to public health emergencies.

Recommendations for priority actions

- A review of Iraq laws should be undertaken to update laws and provide clarity about available powers, designations of responsibility and scope of powers across sectors.
- Use available Constitutional powers to draft subordinate legislation or regulations, or instructions to provide more detail on management of communicable disease (including meeting basic data collection requirements); and quarantine and arrangements to align with the National Strategy and Plan for Disaster Risk Reduction.
- It is suggested that executive power be utilized to make a regulation or instruction nominating the IHR National Focal Point and setting out their powers and responsibilities, as well as those of all focal points of affected agencies in support of this function.
- In the short to medium term, Iraq should conduct a review to consider a new Public Health Law to be made by the Parliament to replace the 40-year-old existing law.

IHR COORDINATION, COMMUNICATION AND ADVOCACY

INTRODUCTION

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

Target

Multisectoral/multidisciplinary approaches through national partnerships that allow efficient, alert and response systems for effective implementation of the IHR. Coordinate nationwide resources, including sustainable functioning of an IHR National Focal Point – a national centre for IHR communications which is a key obligation of the IHR – that is accessible at all times. States Parties provide WHO with contact details of National IHR Focal Points, continuously update and annually confirm them.

LEVEL OF CAPABILITIES

Once IHR was adopted by the WHA in May 2005 and entered into force on 15 June 2007, Iraq completed the ratification of IHR 2005 (Law 68) in December of 2007, established the Higher National Committee with participation from various concerned ministries and chaired by MoH in February 2009, and established an IHR unit within the MoH to coordinate with all IHR-bound sectors in 2010. An IHR technical committee has been established within the MoH, chaired by the Director-General of the Public Health Directorate with participants (contact points) from sectors involved in country-level IHR implementation including those responsible for public health, food safety, veterinary medicine, emergency management, environment, POEs, economy and trade, agriculture (including animal health), radio-nuclear safety and chemical safety, industry, transportation, finance, defence, and all other IHR-bound sectors. Awareness on IHR is limited among sectors in terms of coordination and reporting.

It is essential to have information-sharing arrangements and collaboration in place between sectors, both on a routine basis as well as during emergencies. They allow the IHR to meet the goal of preventing, protecting against, controlling and responding to the international spread of disease while avoiding unnecessary interference with international traffic and trade. Iraq has a limited coordination mechanism within and between relevant ministries in place (national operating procedures for coordination between the IHR National Focal Point and relevant sectors).

Annual updates on the status of IHR implementation to stakeholders including WHO are conducted and confirm the efficiency and effectiveness of the coordination, communication and advocacy arrangements across all relevant sectors. Action plans for IHR event detection and response in POEs is in place.

The IHR-bound ministries coordinate through sharing of data, a multisectoral committee of experts and Emergency Operations Centre during emergencies, as well as through field visits. Reporting and coordination between MoH and Ministry of Agriculture (MoA) is present but very weak. Sharing information is not systematic and mainly occurs during crisis events rather than through a regular and continuous process.

Indicators and scores

P.2.1 A functional mechanism established for the coordination and integration of relevant sectors in the implementation of IHR – Score 2

Strengths and best practices

- IHR multisectoral committee with representation from IHR-bound sectors.
- There are well-developed multisectoral committees for coordination, collaboration and communication between all relevant sectors, specifically during religious visits (mass gatherings) and during outbreaks.

Areas that need strengthening and challenges

- Clear ToRs, functions and level of representation for the IHR multisectoral committee.
- Coordination and reporting are weak among different sectors.
- Awareness on IHR is limited in terms of reporting incidents/events of public health concern among sectors and to the WHO.
- Systemic information exchange between district/provincial health offices, animal surveillance units, laboratories and other relevant sectors regarding potential zoonotic risks, urgent zoonotic events is low to zero due to the fact that there is no reporting mechanism in place.
- There is a limited capacity of involved human resources and a high staff turnover.
- Wide dissemination of IHR documents among all sectors for better awareness raising.
- Test the functionality of the multisectoral committee to respond to real events under the framework of IHR and document lessons learned.

Recommendations for priority actions

- Establish an electronic platform for information sharing between IHR-bound sectors for risk assessment and early interventions.
- Review the ToR of existing coordination mechanisms to ensure integration and clarity of roles' division and responsibilities.
- Conduct advocacy and training activities on IHR for IHR-bound sectors with wide dissemination of related documents.
- Advocate for the representation of IHR NFP in high-level coordination structures, with clear line of information sharing among the members of the IHR NFP and IHR multisectoral committee.
- Organize regular drills/simulation exercises to test coordination and communication mechanisms, including at PoE(s).

ANTIMICROBIAL RESISTANCE

INTRODUCTION

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

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

Target

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

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

LEVEL OF CAPABILITIES

Iraq established an AMR multisectoral committee in April 2017. The AMR committee is headed by the Director-General of the Public Health Directorate in the MoH. The ministries of health, agriculture, education, pharmacy syndicate and environment are represented. The MoH has instituted the AMR unit to coordinate the work of the committee and activate the decisions it takes. The MoA has set up equivalent unit.

The MoH has approved the National Action Plan on Antimicrobial Resistance (NAP-AMR), which is awaiting approval by the MoA. The NAP-AMR identifies the MoH and MoA as the main implementers, and nine other ministries and authorities as contributors to the implementation. The NAP-AMR has seven strategic priorities for Iraq to respond to the AMR threat, which are in line with the GAP. Implementation of the NAP-AMR faces some challenges as there is currently no national surveillance of AMR pathogens under the 'One Health' approach, and no dedicated funding for AMR surveillance activities. Awareness about AMR among health care workers and the public is still poor, and there is weak coordination of AMR awareness activities by the government and its partners. Coordination is still weak with other government ministries and agencies that are not part of the national AMR committee (e.g. municipalities).

Iraq has enrolled to the GLASS platform and has reported AMR data during the last data call in 2018. The MoH has designated the Central Public Health Laboratory as the National Reference Laboratory (NRL) to identify and diagnose AMR pathogens. Laboratory capacity exists in some hospital settings but there are challenges with sustainability of laboratory supplies and reagents.

The MoH has designated the AMR unit as the National Coordination Centre (NCC) for collecting data from different sectors and generating epidemiological reports for dissemination. The capacity of the AMR unit needs further support and training to be able to perform this function. Currently four hospitals have been identified as AMR surveillance sites. Iraq should develop a plan and a strategy in order to be able to establish national AMR surveillance that is representative of its health care facilities and capable of monitoring AMR burden and impact of interventions.

Although an infection prevention and control section exists in MoH, IPC guidelines are outdated and not appropriately utilized. IPC critical supplies suffer from poor budgetary support in health facilities. Only 70% of hospitals have access to safe water, sanitation and hygiene.

Similar IPC units exist in the MoA and a national plan for animal vaccination is available. Further work is needed to promote hygienic practices in farms and slaughterhouses. The MoA has contributed to the latest OIE report on antimicrobial agents intended for use in animals. Further collaboration between MoH and MoA is needed to foster integrated AMR surveillance and sharing of information on antimicrobial use in both sectors. Legislations and regulations that ban the use of antimicrobial agents as growth promoters in animals do not exist in Iraq.

Currently, antimicrobials are available over the counter in community and private pharmacies in Iraq. Efforts are ongoing to enforce the available regulations that ban dispensing antibiotics without a physician prescription. Although the AMR unit at the MoH has developed a protocol to establish an antimicrobial stewardship committee at national and health care facility levels, antimicrobial stewardship is lacking in both the private and public health sectors.

Indicators and scores

P.3.1 Effective multi-sector coordination on AMR – Score 3

Strengths and best practices

- A National Action Plan on Antimicrobial Resistance (NAP-AMR) has been developed, in line with the AMR GAP, with operational costing and monitoring and evaluation components.
- NAP-AMR is approved by the MoH and awaits MoA approval.
- NAP-AMR identified MoH and MoA as the main implementers, with nine other ministries and authorities highlighted as implementation contributors.
- An AMR committee was formulated in 2017 and conducts regular meetings in which recommendations are made for different programme aspects and followed up to ensure implementation.
- AMR units established in both MoH and MoA.

Areas that need strengthening and challenges

- Authority and coordination of the national AMR committee to be strengthened.
- There is inadequate funding available for implementing the plan.
- Implementation of the plan has just started.
- Improve communication between MoA and both OIE and FAO

P.3.2 Surveillance of AMR – Score 2

Strengths and best practices

- Iraq has enrolled to WHO GLASS system and AMR surveillance data were uploaded contributing to global mapping of AMR.
- Central Public Health Laboratory has been designated as the AMR National Reference Laboratory (NRL).
- The MoH AMR Unit has been designated as the AMR National Coordination Center (NCC).
- The first phase of implementation of AMR surveillance (human sector) has started in four sentinel sites.

Areas that need strengthening and challenges

- A strategic plan on AMR surveillance is to be developed in alignment with the requirements of the WHO GLASS system.
- Limited laboratory supplies to support AMR diagnosis.

P.3.3 Infection prevention and control – Score 2

Strengths and best practices

- IPC sections exist in both MoH and more recently in MoA, and IPC teams and committees exist in every major MoH hospital.
- National guidelines for IPC and sterilization of medical/surgical instruments are available.

Areas that need strengthening and challenges

- Current national IPC guidelines need to be updated (current version is from 2009).
- Systematic surveillance of health care-associated infection (HAI) at the national and facility levels has not yet been established.
- Plan for systematic training of infection control teams.
- Expand IPC to include primary health care facilities.
- Establish water, sanitation and hygiene (WASH) component for hospitals and other health care facilities.

P.3.4 Optimize use of antimicrobial medicines in human and animal health and agriculture – Score 1

Strengths and best practices

- Measures are in place to assure access to antimicrobials for humans and animals.
- A national selection committee for recommended antibiotics exists at MoH.
- Drug monitoring department performs quality control of antimicrobials.

Areas that need strengthening and challenges

- Enforce the regulations to restrict dispensing of antimicrobials without medical prescription in private pharmacies.
- Establish antimicrobial stewardship programmes at national and hospital levels.
- Update Essential Medicine List to include antimicrobials according the access, watch and reserve (AWaRe) categories.
- Develop guidelines on the appropriate use of antimicrobial in animals and crops in line with Codex and OIE standards.

Recommendations for priority actions

- Approve, fund and implement the National Action Plan on Antimicrobial Resistance.
- Develop national AMR surveillance plan in both human and animals.
- Update the national IPC guidelines and train health care workers on its implementation.
- Add antimicrobials to the Essential Medical List in line with the WHO guidelines.
- Monitor appropriate use of antimicrobials in both human and animal sectors.

ZOONOTIC DISEASES

INTRODUCTION

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

Target

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

LEVEL OF CAPABILITIES

The zoonotic diseases of greatest national public health concern currently present in Iraq are rabies, haemorrhagic fever and anthrax with an immediate notification. Since 2018, the MoH introduced case-based surveillance for leishmaniasis (cutaneous and visceral), brucellosis, toxoplasmosis, and hydatid cysts. The surveillance, prevention and control of zoonotic diseases involve various competent authorities operating at national and governorates levels, in both the human and animal sectors. A list of the priority zoonotic diseases has been agreed between the MoH, the MoA and other partners.

The MoA has a good understanding of the epidemiological situation regarding animal diseases in the country, and conducts routine passive disease surveillance and monitoring for key animal diseases including zoonotic diseases (e.g. brucellosis, avian influenza) with limited capacity for wildlife disease surveillance. Active surveillance is in place only for avian influenza, primarily due to financial constraints. Veterinary services in Iraq have been traditionally supplied by the government. They consist of specialized central facilities and coordination functions located in Baghdad, veterinary hospitals at the governorate level and district veterinary clinics at over 235 decentralized locations. The major functions of the animal health service have been provision of vaccines and drugs through a veterinary distribution chain down to the district level, disease diagnosis and surveillance, animal quarantine, banning of animal importation, quality control of veterinary products and animal food safety. The MoA report continually to OIE on zoonotic diseases as well as the animal disease occurrence.

The veterinary laboratory has capacity testing for rabies, avian influenza, anthrax, brucellosis, toxoplasmosis, hydatid cysts and leishmaniasis. However, there is a need to extend capacity to include diagnosis of haemorrhagic fever.

Iraq has established a National Zoonotic Diseases Committee since 2005 that gathers all relevant authorities and stakeholders to address zoonoses in a coordinated way, including information sharing and response to zoonotic diseases. However, a joint rapid investigation team is yet to be established. In 2009, when avian influenza was a national issue, a higher national committee for influenza was established. It included the same representatives as the National Zoonotic Diseases Committee in order to ensure the best outbreak response. This committee ceased operation in 2016.

Iraq has 14 veterinary schools with 11 000 graduates registered in the Iraqi veterinary association, 1600 working within the veterinary services across the country and 252 as a veterinary public health within the MoH.

Indicators and scores

P.4.1 Coordinated surveillance systems in place in the animal and public health sectors for zoonotic diseases/pathogens identified as joint priorities – Score 3

Strengths and best practices

- Political commitment during outbreaks and 24 hours/7 days information-sharing during outbreaks.
- Existence of a legislative framework for the National Zoonotic Disease Committee with a specific budget line.
- MoH and MoA have an agreed a list of priority zoonotic diseases.
- Surveillance systems to detect the priority zoonoses are in place in both the MoH and MoA.

Areas that need strengthening and challenges

- Joint surveillance plan for priority zoonotic diseases.
- The MoA has insufficient epidemiology capacity.
- Communication and collaboration between MoA and MoH occurs on an ad hoc basis. There is no mechanism for routine information sharing between MoA, MoH and laboratories.

P.4.2 Mechanisms for responding to infectious and potential zoonotic diseases established and functional – Score 1

Strengths and best practices

- In outbreak situations of priority zoonotic diseases (with or without human cases), there has been a rapid, effective, coordinated and multisectoral response led by the MoH, MoA and other relevant governmental and private stakeholders, with appropriate reporting to relevant international organizations (e.g. the H5N1 avian influenza event).
- A compensation system is legally in place.

Areas that need strengthening and challenges

- Improve the implementation of compensation for diseased livestock to improve the control of the zoonotic diseases.
- The coordination between different sectors involved in the surveillance and response of the zoonotic disease need to be improved.
- Active surveillance for relevant priority zoonotic diseases.
- There is no overall multisectoral preparedness and response plan for zoonoses, thus no standard collaborative mechanisms for systematically responding to most zoonotic events.

Recommendations for priority actions

- Review and update the sector and level representation in the National Zoonotic Disease Committee to ensure functionality. Ensure that the development of One Health strategy is among its responsibilities.
- Establish a joint surveillance plan with all relevant sectors under the One Health strategy.
- Based on assessment of training needs, offer training opportunities to veterinarians, such as access to FETP.
- Expand active surveillance to cover all priority zoonotic diseases. Identify opportunities to fully apply compensation for diseased livestock. Upgrade laboratory capacity for the detection of the zoonotic disease.
- Review the existing plans for zoonotic disease preparedness and response to cover all priority zoonotic diseases.

FOOD SAFETY

INTRODUCTION

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

Target

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

LEVEL OF CAPABILITIES

Iraq has a multi-agency food safety system, where nine ministries are involved and led by the MoH. The food safety programme is part of the Health and Nutrition Cluster and implemented by three-line ministries (MoH, MoA and the Ministry of Interior (MOI)) with coordination of United Nations agencies (WHO, FAO and the United Nations Industrial Development Organization (UNIDO)). The government is in the process of developing and updating the national food safety system. Iraq is a member of the International Food Safety Authorities Network (INFOSAN) with an identified focal point based in the ministry of agriculture. The Iraq food safety system is fragmented in relation to its governance.

The country has a surveillance and monitoring system in place, governed by laws and regulations in concerned ministries such as MoH, MoA and the Ministry of Planning (MoP), as well as the Baghdad Municipality. Case definitions for each of the waterborne and foodborne diseases exist as well as an updated list of the laboratories that can perform the necessary testing during foodborne disease outbreaks or contamination events.

Furthermore, there is a plan documenting response procedure to address food safety emergencies included in the Public Health Law (PHL) No. 89 (issued in 1981) and Food Law no. 4 (issued in 2011), and regulations and decisions of the inter-ministerial Food Consultative Council.

Health workers and sanitary/food inspectors are trained on reporting foodborne events, which is part of executive annual plans and training courses/workshops.

Iraq has a structured food inspection system especially for manufacturing and importation of pre-packaged foods. The country has authority over meat inspection in slaughterhouses. The training capability to perform laboratory tests and identify disease aetiology is in place for most potential foodborne and waterborne contaminants. However, there is a gap in the testing of pesticide residues and other chemical contaminants such as heavy metals, industrial pollutants and mycotoxins.

A comprehensive WHO mission took place to evaluate the food safety capacity in the country a few months before the current JEE took place. This was followed by a workshop to develop a plan of action based on the recommendations of the mission. The recommendations emerging from the external evaluation were consistent with the recommendations of the previous food safety mission.

Indicators and scores

P.5.1 Surveillance systems in place for the detection and monitoring of foodborne diseases and food contamination – Score 2

Strengths and best practices

- Existence of laws, legislation and regulations related to food safety.
- Health care workers and sanitary inspectors trained on reporting of foodborne events.
- Rapid response teams exist at national and subnational level.
- Inter-ministerial Food Consultative Council has made 226 formal decisions.
- Existence of laboratory capacity for waterborne and foodborne diseases.

Areas that need strengthening and challenges

- Update the food safety section in the current Public Health Law.
- Improve laboratory capacity, especially for the identification of chemical contaminants and strain characterization, allowing investigation of linkages between human and food isolates and in order to provide quicker responses to case clusters and help prevent outbreak spread.
- Improve collaboration, coordination and data sharing between the sectors involved in surveillance.
- Strengthen the human resources capacity required for implementation of the food safety programmes at national and subnational levels.
- Enhance national surveillance systems to ensure outbreaks of foodborne diseases are captured, including support to establishment of a national database.
- Coordinate communication between the INFOSAN focal point and other actors involved in the food safety system.

P.5.2 Mechanisms are established and functioning for the response and management of food safety emergencies – Score 2

Strengths and best practices

- Existence of the food safety plan documenting response procedures to address food safety emergencies included in the Public Health Law (PHL) No. 89 and Food Law no.4, as well as regulations and decisions of the inter-ministerial Food Consultative Council.
- Existence of religious mass gathering preparedness plan.
- Existence of communication channels between relevant ministries.
- Various laws and regulations reviewed and updated recently.

Areas that need strengthening and challenges

- Strategies, guidance and procedures (SOPs) for communication between partners, stakeholders, the general public and international organizations.
- Improve capacities of analytical services.
- National preparedness for chemical food safety response.

Recommendations for priority actions

- Finalize the plan of action based on the recommendations of WHO food safety mission.
- Establish clear procedures to improve coordination between the food safety actors.
- Integrate with the Arab League Strategy for Health and Environment.
- Disseminate INFOSAN focal point contact information among various stakeholders.
- Enhance in-country laboratory capacity for the identification of all foodborne and waterborne contaminants.

BIOSAFETY AND BIOSECURITY

INTRODUCTION

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

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

Target

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

LEVEL OF CAPABILITIES

Iraq is putting efforts into developing and implementing a biosafety and biosecurity programme to ensure sustained adequate laboratory practices throughout the country. A multisectoral National Biorisk Management Committee (NBMC) was established in 2012. Members include representatives from the consulted commission for the Minister's Cabinet, Prime Minister's Office, National Security Services, Intelligence Services, MoH, MoA, Ministry of Higher Education and Research (MOHESR), Ministry of Industry (MoI), Ministry of Trade (MoT), Ministry of Environment (MoE) (previously), Ministry of Defense (MoD), (MoI), Ministry of Foreign Affairs (MoFA), Ministry of Finance (MoF), Ministry of Science and Technology (MoST) (previously), Iraqi National Monitoring Authority (INMA). There are three subcommittees for legislation, the pathogen list and awareness raising. The whole committee meets every three months. Subcommittees meet more frequently.

Some, but not all, elements of a comprehensive biosafety and biosecurity system are in place. The country has started with keeping an inventory of dangerous pathogens. A comprehensive national biosafety and biosecurity regulatory framework is currently being finalized before submission for endorsement. All laboratories in the country must be licensed by the MoH in line with the Public Health Law 89 (1981), and subsequent revisions, in order to operate.

The highest biosafety level (BSL) in the country is BSL2+ (work with microorganisms is conducted in a BSL2 laboratory with selected BSL3 biosafety practices and procedures). The Central Public Health Laboratory (CPHL) and Central Veterinary Laboratory (CVL) are facing a poor status of their infrastructure as well as malfunctioning/lack of their maintenance of key equipment. This is especially important for the class 2 biosafety cabinets (BSC Class 2), which have not received maintenance and were not certified since they were first installed. There are no longer qualified engineers or essential calibrated equipment in the country to maintain and certify BSC Class 2. The lack of properly functioning equipment is likely an equally important issue for laboratories across other sectors.

Aside from biosafety in the laboratory, more attention is needed to training fieldworkers across sectors to safely collect, handle, pack and transport specimens.

Indicators and scores

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

Strengths and best practices

- Country has started the process of monitoring and keeping an updated record and inventory of pathogens within facilities that store or process dangerous pathogens and toxins.
- A comprehensive national biosafety and biosecurity regulatory framework has been developed but is not yet endorsed.

Areas that need strengthening and challenges

- A comprehensive reporting system that ensures all incidents are reported and processed is currently lacking.
- Ensuring facilities are suitable for laboratory operations and provide a safe working environment. Maintenance and certification of equipment, in particular BSC Class 2.

P.6.2 Biosafety and biosecurity training and practices in all relevant sectors (including human, animal and agriculture) – Score 3

Strengths and best practices

- Presence of biosafety and biosecurity training programmes of various scope and quality across sectors.
- Country is developing sustained academic training proportionate to the assessed risks, including for those who maintain or work with dangerous pathogens and toxins.

Areas that need strengthening and challenges

- Training for fieldworkers to safely collect, handle, pack and transport specimens.
- Continue academic training and training of laboratory staff in all aspects of biosafety and biosecurity in line with the latest national and international guidelines.

Recommendations for priority actions

- To endorse and implement the national regulatory framework for biosafety and biosecurity.
- To provide (refresher) trainings in biosafety and biosecurity for laboratory staff in all sectors, including field staff. Areas of training to include attention to risk assessment and managing high-threat pathogens.
- To continue to maintain an updated inventory of dangerous pathogens and toxins.

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; and in the majority of cases, immunization delivery systems and strategies have been the most effective ways to reach everywhere and deliver health preventive interventions, including in emergency settings.

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.

LEVEL OF CAPABILITIES

The national expanded programme on immunization (EPI) programme in Iraq was established in 1985, targeting infants, with six antigens. Since that time, the programme evolved to expand to older age groups and include 11 antigens (i.e. hepatitis-B, tuberculosis, polio (OPV/IPV), pertussis, diphtheria, tetanus, rotavirus, measles, rubella, mumps and pneumococcal infections), in addition to other vaccines specific to special high-risk populations (such as typhoid and meningococcal vaccines). The latest vaccines that were introduced to the national EPI schedule were Haemophilus influenzae type B (Hib) and rotavirus (both in 2012), inactivated polio vaccine (IPV) (2016) and pneumococcal conjugate vaccine (PCV) (2017).

Immunization in Iraq is mandatory (public health law) to all children and is provided free of charge to all target populations living in the country regardless of their nationality.

The programme was able to achieve high level performance in the past, but has been heavily affected by the crisis, resulting in much lower coverage rates and increased morbidity and mortality with vaccine preventable diseases (VPDs). Huge efforts are now being made by MoH, in collaboration with partners, to rebuild capacities throughout the country and to strengthen the various components of the immunization system.

The programme budget is almost 100% secured through government resources, except for some vaccination campaigns where contributions from WHO, UNICEF and other partners have been received. However, some of the important programme functions (like training, supervision, etc.) have been facing financial challenges.

The country relies on a vaccine self-procurement mechanism run by KEMADIA (an MoH institution that has a monopoly for drugs and vaccine procurement in Iraq), based on districts/provinces expressed needs. Vaccine shortages have been reported at both national (shortage in oral polio vaccine for 2 months, resulting in a lower coverage with OPV3) and peripheral level, highlighting important gaps in vaccine forecasting, procurement and distribution systems.

A vaccine inventory assessment was recently performed by UNICEF and EMPHNET (Dec 2017–Jan 2018) and an operational cold chain replacement plan developed. This activity was followed by intensified capacity-building activities of relevant staff at various geographic levels on Vaccine Stock Management (VSSM) and with, very soon, a full Effective Vaccine Management Assessment (EVM).

Routine immunization services are delivered through a fixed strategy involving 1748 health facilities out of the 2183 ones that are available in the country, as reported by the EPI program during the JEE mission, while the above-mentioned recent cold chain equipment inventory (see above) showed that 40% of the functioning facilities at the service delivery level are not providing immunization services.

In addition to routine immunization, the programme has been implementing vaccination campaigns as part of their national VPD control, elimination and eradication strategies (i.e. polio eradication, measles elimination, rubella prevention and control, etc.), in addition to some focused multi-antigen campaigns to improve population immunity, particularly in high risk populations. Health education and population awareness activities have been very episodic and mostly restricted to vaccination campaigns, resulting in insufficient awareness and engagement from both health practitioners and the general population.

The programme operates through a multi-year plan (the current one covers the period 2017–2022), translated into operational annual action plans that are in line with the global and regional goals, strategies and action plans (e.g. the Regional Vaccine Action Plan of the Regional Office for the Eastern Mediterranean (EMVAP) 2016–2020 and the Global Vaccine Action Plan (GVAP) 2011–2020).

Programme reporting, monitoring and evaluation systems have been put in place, including a VPDs surveillance system. However, the relatively important discrepancies between the data collected by the administrative system and the results provided by multiple indicator cluster surveys (MICS) in 2010 and 2018, points to important data quality and accuracy issues (probably in terms of the programme routine reporting system as well as denominator figures). No national vaccine coverage survey has been for more than 10 years.

Analysis of the programme achievements in terms of reported coverage figures – with the various programme schedule doses – indicates increasing drop-out rates throughout the various immunization schedule contacts (e.g. in 2017, reported coverage with BCG at birth was 96%, decreasing to 85% with Hexa 3 at 6 months), indicating a clear service utilization problem.

In terms of zoonotic diseases, reports from animal sectors indicate relatively well-sustained activities for some diseases like brucellosis and rabies, against which around 6 million sheep and goats, and 150 000 dogs, are respectively vaccinated annually.

Indicators and scores

P.7.1 Vaccine coverage (measles) as part of national programme – Score 3

Strengths and best practices

- National policy supported by a public health law and high-level government commitment.
- Almost 100% national financing, except for some specific vaccination campaigns (partners' contribution).
- Vaccination mandatory to all target populations living in the country regardless of their nationality, including internally displaced populations.
- Strong national immunization schedule with expanded age groups, 11 Antigens included into the routine EPI services, in addition to other vaccines for specific population groups (such as health professionals, pilgrims etc.) and multiple booster doses.
- Mixed vaccine delivery strategy, including fixed routine immunization services by 1748 vaccination points, supported by acceleration as well as VPDs control, elimination and eradication vaccination campaigns.
- 85% of children under 12 months of age have received measles vaccine in 2017, as per the programme administrative reporting system; while WHO and UNICEF estimates this rate to 71%).

Areas that need strengthening and challenges

- Programme facing financial and human resources difficulties that are heavily affecting capacities to deliver high-quality immunization services to all areas and population groups.
- Problems of sustainable access and utilization of immunization services as attested by the inadequate measles coverage rates, the important drop-out rates between the consecutive immunization contact points, and the high proportion of low performing districts (37% of the 139 districts not being to achieve 80% Hexa 3 coverage (with 2 districts reporting rates less than 50%) and only 19% achieving the global measles elimination coverage target of 95%).
- Significant proportions of primary health care facilities are not delivering routine immunization services.
- Health education and communication activities are restricted to immunization campaigns, with lack of a clear strategy for sustainable programme awareness and communication to improve population demand, effectively address the increasing rumours and hesitancy in a timely way, and strengthen professionals' engagement.
- A sustained relatively high transmission of some VPDs, such as pertussis, mumps and measles, as reported by the WHO VPD Monitoring System.

P.7.2 National vaccine access and delivery – Score 2*Strengths and best practices*

- Vaccine delivery system with relatively good cold chain maintenance is available to 60 to 79% of target population within the country.
- Ongoing important efforts by MoH, with the support of UNICEF and EMPHNET, to strengthen vaccine supply chain management. In early 2018, this included a nationwide vaccine equipment inventory, followed by an improvement/replacement plan, as well as intense capacity-building activities with relevant staff at various geographical levels, focused on vaccine supplies stock management (VSSM). A full effective vaccine management (EVM) assessment is planned to take place in the near future.
- 100% of routine immunization required vaccines are purchased through the national budget.
- A centralized vaccine self-procurement mechanism run by KEMADIA (an MoH institution that has the monopoly for drugs and vaccine procurement in Iraq), with a bottom-up forecasting approach).

Areas that need strengthening and challenges

- Sustained vaccine availability is a challenge at the delivery level, with reported shortages at peripheral as well as national levels, highlighting problems in both vaccine forecasting and procurement, as well as distribution and management.
- Vaccine procurement mechanisms and procedures, including considering the global vaccine stock levels and market size.
- Evidence-based estimation of vaccine needs by the various country administrative levels, for a better stock management.
- More than 40% of primary health care facilities are not delivering routine EPI services.

Recommendations for priority actions

- Conduct an extensive mapping of potential new vaccine delivery opportunities to support the ongoing programme immunization network wherever improvement to physical access is needed.
 - Start first with integrating immunization services in relevant primary health care facilities that do not provide vaccines to their clients (upgrade their technical and logistical capacities accordingly).
 - Consider other options wherever needed and possible, through other MoH and public opportunities, as well as potential public–private partnerships.
 - Conduct bottleneck analyses to identify gaps in vaccination coverage, particularly in the districts with consistent low coverage, and develop local plans to address these gaps.
 - Update/upgrade health promotion activities considering the local social context
- In order to prevent further vaccine stock-outs at both central and peripheral levels, use the opportunity of the support being provided by UNICEF/EMPHNET to undertake a comprehensive assessment of the vaccine procurement system (within the forthcoming EVM assessment) in order to identify major hurdles and undertake necessary correction measures.
- Urgently address the data quality and accuracy problem through conducting a national coverage survey to obtain a better indication of the country achievement; a data quality self-assessment (DQS) will also identify weaknesses and improve the programme data management system.
- Expand the ongoing microplanning improvement process (capacity-building and micro-plans development) to remaining districts and governorates, while improving mapping of low-immunity population groups and areas, and updating of micro-plans accordingly.
- Update the national strategy and plans to ensure:
 - A proper and regular mapping and addressing of low coverage areas and population groups (Focus on stronger monitoring and data use for action, microplanning ('Reaching Every Community' approach), and raising awareness among both health workers and targeted populations).
 - Electronic data reporting and analysis system gaps.
 - Vaccine-preventable diseases surveillance gaps (in particular in high risk areas and private sector).

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

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

LEVEL OF CAPABILITIES

Iraq has a multisectoral laboratory system with most of the diagnostic capacities at national level. Ministries with laboratories include MoH, MoA, MoHESR, MoT and MoP. Laboratories at the MoP are responsible for issuing Iraq standards for food and water safety. Under the supervision of the MoH there are clinical primary health care laboratories, secondary and tertiary laboratories and public health laboratories, including food safety and water. There are also chemical and radio nuclear laboratories under the MoE.

The CPHL and CVL are the main reference laboratories for public and animal health, respectively. While the indicator laboratory testing for detection of priority diseases (D.1.1) was scored as demonstrated capacity, it should be noted that there is still room for improvement. This is especially true for laboratory quality and safety. CPHL is not accredited against international standards (e.g. ISO15189). Although progress has been made in this area, funds are lacking to fully achieve this. National laboratory quality standards do not exist. The highest biosafety level (BSL) in the country at CPHL is BSL2+ (work with microorganisms is conducted in a BSL2 laboratory with selected BSL3 biosafety practices and procedures). All laboratories in the country must be licensed by the MoH in line with Public Health Law 89 (1981), and subsequent revisions, in order to operate. A laboratory information management system is not in place. Laboratory surveillance for antibiotic resistance is underway at four surveillance sites, including through automated culturing and VITEK 2, with early implementation of data collection through WHONET (see P.3.2, Surveillance of AMR for more details). The current poor status of the facility's infrastructure; malfunctioning and maintenance of key equipment, including biosafety cabinets; and difficulty in procuring reagents and validated kits in a sustainable manner, hamper the performance of the CPHL.

As there are many types of laboratory services in the country at national and subnational levels, as well as across sectors, there is need for strategic direction and coordination across these laboratories. Iraq would benefit from developing, endorsing and implementing a national laboratory policy and a subsequent national laboratory strategy to provide direction and streamline laboratory services. The national laboratory strategy would also describe a tiered laboratory network, outlining test capacities at different levels within the system.

District level laboratories rely in large part on referral to national laboratories for (advanced) testing or confirmation. There are procedures in place through the MoH to manage specimen referral from all districts to national level laboratories. Given the country's current high reliance of on specimen referral, it is important to ensure that these operations are functioning properly by performing a multisectoral simulation exercise to identify areas for improvement.

Indicators and scores

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

Strengths and best practices

- The country, mainly at national level, is able to perform six core tests and related antimicrobial susceptibility testing and participation in external quality assessment programmes, including for: (1) PCR for influenza; (2) virus culture for poliovirus; (3) serology for HIV; (4) microscopy for Mycobacterium tuberculosis; (5) rapid diagnostic testing for Plasmodium spp; and (6) bacterial culture for Salmonella Typhi. Additional tests selected by the country are for detection of viral hepatitis, Vibrio cholerae, and bacterial meningitis.

Areas that need strengthening and challenges

- The infrastructure of the CPHL has deteriorated over time and is currently in poor condition, which may negatively impact laboratory performance. Additionally, some departments are struggling with ensuring that their equipment is properly functioning and well maintained. Investment in improving the CPHL facility and equipment is needed.
- At the national level, aside from core tests, public and animal health laboratories need to continue to improve the safe, accurate, and rapid detection of high-threat pathogens in-country or through international referral.

D.1.2 Specimen referral and transport system – Score 4

Strengths and best practices

- A system is in place to transport specimens from all districts in the country to the national reference laboratories for testing, facilitated by the MoH.
- A cohort of shippers from district and national levels was recently trained and certified by WHO using the Infectious Substances Shipping Training (ISST).

Areas that need strengthening and challenges

- Shipping of specimens, including high-threat pathogens, from district to national levels can be further improved by performing drills reviewing the functioning of specimen collection, packing, transportation and receipt. The exercise scenario should be based on a (fictional) zoonotic disease outbreak to test multisectoral coordination.
- Investigate opportunities to engage with the national airline and its pilots for shipping of specimens by air to the national reference laboratory.

D.1.3 Effective national diagnostic network – Score 2

Strengths and best practices

- National reference laboratories for public and animal health are well connected to subnational laboratories in terms of referral of specimens.

Areas that need strengthening and challenges

- Subnational laboratories rely on referral of specimens to national laboratories and improving diagnostic capacities at subnational level in line with a tiered laboratory network would improve the overall functioning of the system.
- Sustainable procurement of reliable point of care tests, including rapid diagnostic tests, remains a challenge and options to improve this should be investigated.

D.1.4 Laboratory quality system – Score 2

Strengths and best practices

- CPHL has a quality management team and it is progressing with the WHO Laboratory Quality Stepwise Implementation (LQSI) tool towards ISO 15189 accreditation.
- National-level laboratories participate in several international external quality assessment (EQA) programmes (see D.1.1).

Areas that need strengthening and challenges

- No national laboratory quality standards currently exist that serve as a minimum set of standards that can be readily adapted and applied to laboratories at every level of the health care system.
- Coordination among (national level) laboratories that organize EQA schemes for subnational laboratories to avoid duplication of efforts and best use of resources.

Recommendations for priority actions

- Develop, endorse and implement a national laboratory policy to guide future activities in a coordinated and sustainable manner and by making optimal use of resources. Subsequently, to develop, endorse and implement a national laboratory strategic plan to translate the national laboratory policy into strategic objectives.
- Develop, endorse and implement national laboratory quality standards that can be adapted and applied to laboratories throughout the country.
- Conduct a situational analysis summarizing locations and capacities of key laboratories across the country serving different sectors, including public health, clinical, animal health, food safety, chemical and radiation, to support tier-specific testing strategies and national referral testing.
- Test the functionality of the national specimen referral system through conducting a simulation exercise, specifically a drill.

SURVEILLANCE

INTRODUCTION

The purpose of public health surveillance is to ensure both, the early warning function across jurisdictional levels – so that risk assessment and management actions related to an acute public health event can be taken without unnecessary delays – and the generation of information to drive the public health related decision-making process as an acute public health event evolve.

Target

The public health-related early warning function, as well as the ability to generate information to drive the public health-related decision-making for acute public health event management purposes, require seamless connections across multiple jurisdictions – potentially from the local to the international levels and, potentially, across multiple disciplines and sectors.

LEVEL OF CAPABILITIES

Iraq is comprised of 18 provinces with twenty Departments of Health (DoHs) (Baghdad Resafa, Baghdad Kergh and Medical City). At the district level there are 146 primary health district sites. In each province there are veterinary hospitals and many veterinarian clinics. In Iraq, surveillance of infectious diseases for human health under the MoH and MoE with the mandate for the provision of health services in Iraq. Public health surveillance systems are coordinated by the epidemiology unit within the MoH.

Iraq has a long experience of surveillance of human infectious diseases. Event-based surveillance is yet to be fully implemented at the national and subnational levels. The signals detected passively by the system are followed up by rapid response teams to respond to the type of threat detected.

Indicator-based surveillance is performed through a mandatory notification system of priority diseases and the 1450 surveillance sites include all government hospitals. The notification system involves reporting from clinicians and laboratories to the national level. District level data is paper-based and collected on a weekly basis from all surveillance sites. Thereafter, the districts enter the data electronically (into an Epi-Info 7 template) and send it to the DoH (via email), which in turn sends the data to CDC (via email) where it is appended to a master file.

The list of diseases requiring immediate notification includes cholera, diphtheria, malaria, measles, meningococcal meningitis, rabies, acute flaccid paralysis, rubella, bilharzia, poliomyelitis, severe acute respiratory infection (SARI), cutaneous anthrax, pulmonary anthrax, tetanus, simian haemorrhagic fever (SHF), Ebola virus disease, food poisoning and any unusual health event. All data is analysed by the epidemiology department of the MoH and MoE, and reports are produced and disseminated regularly to stakeholders. In addition, there is a list of case-based diseases and weekly reported diseases.

Iraq has established National Committees for Communicable Diseases Such as: National Zoonotic Diseases Committee (since 2005); Higher National Committee for Influenza (since 2009); Higher National Committee for Cholera Control; and Higher National committee for Vector Control. All stakeholders are represented in these committees and meet as required, with any recommendation(s) arising from committees being mandatory to the stakeholders.

Indicators and scores

D.2.1 Surveillance systems – Score 2

Strengths and best practices

- The reporting chain is clearly identified.
- There is legislation mandating the reporting of infectious diseases.
- Registry book for communicable diseases: Unified case definitions are included in the registry book.
- Reporting tools are standardized: Availability of immediately notifiable and case-based forms, and aggregated or weekly notification forms.
- Completeness of notification forms

Areas that need strengthening and challenges

- Laboratory capacity to confirm disease occurrence.
- Timelines of disease notifications from all service providers.
- Update the Registry book for communicable diseases. The last edition was published in 1999.
- Formally establish event-based surveillance.

D.2.2 Use of electronic tools – Score 2

Strengths and best practices

- Electronic versions of the paper forms are used (Epi-info 7) at the central level to facilitate the analysis and reporting of surveillance data (via e-mail).
- Surveillance data from vertical disease programmes are linked under the health information system.

Areas that need strengthening and challenges

- A single electronic surveillance platform that allows data to be entered at the point of care and for recording all public health events.
- Electronic reporting for animal health.

D.2.3 Analysis of surveillance data – Score 3

Strengths and best practices

- Capacity exists in the country, in the epidemiology department, to conduct analysis of surveillance data.
- Production of weekly, monthly and annual epidemiological bulletin and reports.

Areas that need strengthening and challenges

- An electronic system that automatically analyses data and shows trends and alerts.
- Capacity of surveillance officers at the different administrative levels.
- Capacity to conduct timely risk assessment at the different administrative levels.

Recommendations for priority actions

- Establish database to capture all public health events.
- Formalize current event-based surveillance system.
- Integrate laboratory information into existing indicator and event-based surveillance.
- Enhance in-country laboratory capacity to allow for the prompt identification of national priority pathogens.

REPORTING

INTRODUCTION

Health threats at the human–animal–ecosystem interface have increased over the past decades, as pathogens continue to evolve and adapt to new hosts and environments, imposing a burden on human and animal health systems. Collaborative multidisciplinary reporting on the health of humans, animals and ecosystems reduces the risk of diseases at the interfaces between them. The IHR National Focal Points, the OIE delegate, and WAHIS focal point should have access to a toolkit of best practices, model procedures, reporting templates, and training materials to facilitate rapid (within 24 hours) notification of events that may constitute a public health emergency of international concern (PHEIC) to WHO, and listed diseases to OIE, and will be able to rapidly (within 24/48 hours) respond to communications from these organizations.

Target

Timely and accurate disease reporting according to WHO requirements and consistent reporting to/information of FAO and OIE.

LEVEL OF CAPABILITIES

A key provision of the IHR is that a country must report any event that may constitute a PHEIC to WHO within 24 hours. Some diseases always require reporting under the IHR, while others require reporting only if they represent a risk of cross-border spread. Any other diseases or biological, radiological or chemical events with potential health consequences that meet the criteria established by the IHR must also be reported.

Iraq has a Higher Committee as well as a Technical Committee established as per an official ministerial order with defined terms of reference (ToRs), roles and responsibilities of the designated focal points.

In Iraq, the notifiable diseases are selected as per Annex 2 of the IHR (2005). Notification is based on the event status, namely whether it is a public health threat, unusual event, its geographical distribution and if it poses danger on trade and travel. This concept is not fully understood by all sectors, which highlight the need to intensify advocacy activities to raise awareness of IHR among the IHR-bound sectors.

The veterinary department reports notifiable diseases to OIE on regular basis, including immediate reporting for some diseases. However, information is not shared in a timely way with the IHR National Focal Point, whereas all occurring diseases are reported in the annual report.

The endemic diseases are not commonly reported when they reach to an outbreak level. The IHR National Focal Point is part of a common diseases committee that conducts regular meetings to share information on how to respond to any outbreak, notification to WHO is usually not part of the discussion.

The national IHR focal point responds to WHO verification requests but not within the timeframe identified in article 6 of the IHR. Also, the national IHR focal point is not making use of the consultation article under IHR concerning the public health events and their notification.

Although a broad understanding among the human resources (HR) sectors that early notification of public health events ensures early response and thereby prevents disease spread affecting national and global health security, coordination and information sharing are more present in times of emergency than in the day to day activities.

Indicators and scores

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

Strengths and best practices

- Iraq has identified the IHR National Focal Points, an OIE focal point and they also have access to the learning package and best practices as provided by WHO, OIE and FAO.

Areas that need strengthening and challenges

- Improve coordination and collaboration with OIE contact point in order to exchange information when needed, specifically when it comes to legislation and regulations.
- Multisectoral process in place for assessing potential events, and for reporting and systemic information exchange between district/provincial health offices, animal surveillance units, laboratories and other relevant sectors regarding potential zoonotic risks. Urgent zoonotic events are low to zero due to the fact that there is no reporting mechanism in place.
- Ability to identify a potential PHEIC and file a report to WHO and similarly to the OIE (according to OIE processes) for relevant zoonotic diseases, based on an exercise or real event.

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

Strengths and best practices

- Iraq has established processes, governing reporting and processes for multisectoral coordination, specifically during mass gathering events (mainly religious in nature) as well as during outbreaks.
- Iraq has established IHR multisectoral coordination that includes representation from all IHR-related sectors.

Areas that need strengthening and challenges

- Event-based surveillance (EBS) is weak, especially in the area of the required legislation to conduct EBS.
- Capacity building (intensive training) on IHR including notification under IHR for staff in different ministries and sectors.
- Improve information sharing among sectors (e.g. integrated electronic surveillance system for immediate reporting and disease/event notification).
- Establish protocols, processes and SOPs for reporting of a potential PHEIC to WHO and to OIE for relevant zoonotic diseases in alignment with national and international standards and multisectoral coordination to respond to a potential PHEIC to WHO and to the OIE for relevant zoonotic diseases

Recommendations for priority actions

- Develop a policy and SOPs for notification of a potential PHEIC for all reporting entities and from IHR National Focal Point to WHO.
- Improve understanding of WHO, OIE, FAO notification/reporting requirements through multisectoral discussions.
- Disseminate information on roles and responsibilities of INFOSAN, WAHIS, IAEA and IHR focal points to relevant stakeholders.
- Conduct training to enhance knowledge and use of the IHR decision instrument for the notification of potential all-hazard PHEIC.
- Review previous event compliance of IHR notification to identify gaps and recommend improvements.

HUMAN RESOURCES

INTRODUCTION

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

Target

States Parties with skilled and competent health personnel for sustainable and functional public health surveillance and response at all levels of the health system and the effective implementation of the IHR. Human resources include nurses and midwives, physicians, public health and environmental specialists, social scientists, communication, occupational health, laboratory scientists/technicians, biostatisticians, information technology (IT) specialists and biomedical technicians. There is a corresponding workforce in the animal sector of veterinarians, animal health professionals, para-veterinarians, epidemiologists and IT specialists.

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

LEVEL OF CAPABILITIES

A multisectoral, skilled and competent, workforce at national, regional and local levels is critical for the implementation of IHR core capacity requirements.

MoH directorate of planning and resources development has a multi-year strategy (2018–2022) for human resources. This strategy deals with HR as a package of general practitioner and specialist doctors and aims at securing one physician per 1000 population, with no categorization for specific medical specialties, especially relevant to IHR implementation, such as epidemiologists, veterinarians and community health workers. The strategy has a general classification for HR that is not based on job description and positions, and includes a performance appraisal system. The MoH intend to begin revising the RH development strategy soon, to reflect IHR requirements.

A MoH/MoHER coordination committee meets on regular basis to maintain consistency between the real HR needs of the MoH and HR production. However, there is no indication that IHR implementation needs in terms of HR has been duly considered.

The country offers in-service opportunities, through a mix of regular and well-planned training courses as well as ad-hoc capacity building workshops, supported mostly by partners. However, IHR implementation capacities do not seem to be adequately considered, with a few exceptions by virtue of the country FETP programme as well as the ongoing RRT cascade ad-hoc training supported by EMPHNET. In addition, there are no clear incentives from MoH to attract people towards some public health careers such as epidemiology and family medicine.

The country has been sustaining a national FETP programme since 2010, as a part of the Regional FETP Network, coordinated and supported by EMPHNET. FETP Iraq has been getting strong technical support from the Faculty of Medicine, Baghdad as well as the relevant technical departments from MoH. However, only 52 epidemiologists have graduated in the past years. The main reason has been the low awareness from national public health HR development decision-makers, resulting in a low attraction and interest from public health officers (mainly due to lack of incentives).

Recently, the country added a second layer to the FETP through implementation of a three-month Public Health Empowerment Programme (PHEP), supported by EMPHNET, and that has provided field epidemiology training to 75 local level surveillance officers in priority areas in the country. The country has plans to add an intermediate level training in September 2019, to meet the needs of other public health officers from various health-related disciplines (such as veterinarians, dentists, pharmacists and graduates of the health technology colleges) working in the public health programmes at the central and governorate levels with the support of the Defence Threat Reduction Agency (DTRA) and EMPHNET, while sustaining the existing advanced and PHEP layers.

As a result, the country has important shortages in terms of HR capacities relevant to IHR implementation, in particular at provincial and district levels. Available data indicates that in total the country rate for physicians, midwives and nurses is 3.1 per 1000 population, and that only 14% of the available physicians in the country are working in primary health care centres. The same data indicates important shortages in some disciplines that are crucial for IHR implementation, such as occupational health and field epidemiology (52 graduations so far from the national FETP programme, in addition to a few others from the Iraq Board and the Arab Board, representing a rate of less than 2 per million populations, which is five times lower than the recommended rate of 1 per 200,000 population) and.

The situation in terms of animal health is similar to that in public health. There are in total around 11 000 veterinarians in the country, around 16.8% of them working in the public sector (e.g. 1600 in MoA and 252 in MoH). However, there is very limited epidemiological capacity in animal health as well as in some of the mid-level animal health staff (e.g. technicians), affecting in particular the provincial and district levels and the field activities. For example, the National Institute of Animal Health previously trained mid-level animal health technicians has been closed for four years. Tasks previously performed by technicians, such as routine/survey-related data collection have since been shifted to veterinary staff.

Indicators and scores

D.4.1 An up-to-date multisectoral workforce strategy is in place – Score 2

There are HR development strategies in both human and animal health, with information available on human resource allocation and gaps. However, the strategies are not aligned and have not taken IHR implementation requirements in consideration. They do not, for example, include some crucial careers for IHR implementation (such as epidemiology, occupational health, vets and other animal health professions).

Strengths and best practices

- MoH directorate of planning and resources development has a multi-year strategy (2018–2022) for human resources.
- The strategy has a general classification for HR and includes a performance appraisal system.
- MoH has established annual indicators in terms of HR requirements, based on available staff and recruitment capacities as well as on production capacities (through a coordination committee comprising MoH and MoHER).
- The situation is very similar when it comes to animal health.

Areas that need strengthening and challenges

- Available HR development strategies in both human and animal sectors have not considered some of the careers that are highly important for IHR implementation requirements (such as epidemiology, occupational health, vets and other animal health professions).
- Weak coordination between the various sectors involved in IHR implementation in terms of developing, implementing, monitoring and sustaining an adequate intersectoral work force to implement IHR at all country administrative levels.
- No incentives have been considered to attract human and animal health professionals to public health careers relevant to IHR implementation.

- HR database accuracy and update status, as well as real-time information (use of technology and international standards).

D.4.2 Human resources are available to effectively implement IHR – Score 2

The country has sufficient multisectoral HR capacities at national level to deal with epidemic preparedness and control, which is not the case when it comes to subnational country administrative levels.

Strengths and best practices

- Both human and animal health sectors have well-trained human resources to deal with epidemic preparedness and response, as well as with other IHR capacities including chemical/biological/radiological/nuclear (CBRN).
- There are plans within MoH to enhance HR to more closely meet IHR requirements across the various human health career development and the country administrative levels, through a more evidence-based and balanced career development processes and a better distribution of available resources.

Areas that need strengthening and challenges

- Revision of country HR development indicators to consider IHR capacities across all involved disciplines and country administrative levels.
- Identification across all sectors and all administrative levels of available IHR-relevant HR to determine gaps and revise HR development strategies in all IHR-related sectors.
- Establish a mechanism to monitor implementation of the above-mentioned strategies across IHR-related sectors.
- Identify urgent governorate and district needs across all sectors and consider redistributing available capacities to meet those priorities, while waiting for more staff to be trained and recruited to better balance IHR requirements at the various country administrative levels.
- Periodic mapping of HR to ensure a better distribution between and within various country administrative levels.

D.4.3. In-service trainings are available – Score 3

There are various opportunities made available to public health professionals for in-service training, across human and animal health, with an annual planning process, also supported by partners. However, there has not been enough consideration of some important IHR key capacities, such as attracting sufficient public health staff as well as facilitation and regulating access to meet priorities.

Strengths and best practices

- Availability of in-service action plans in both human and animal health sectors.
- Availability of in-service opportunities – through a mix of regular and well-planned training courses, as well as ad-hoc capacity building workshops – provided by both available institutions in the country, with intensive support from several partners.

Areas that need strengthening and challenges

- Better use of available in-service training opportunities (in and outside the country) to fit IHR HR requirement across all sectors.
- No supportive mechanisms in place to secure adequate attracting of PH staff towards IHR key domains and careers.
- Better consideration of district and provincial priority needs in offering and supporting access to relevant in-service training opportunities.
- Budgeting of all in-service training plans, and prioritizing use of national resources for a better sustainability.
- National Animal Health Institute was closed four years, which resulted in an important disruption in producing mid-level animal health professionals.

D.4.4 FETP or other applied epidemiology training programme in place – Score 4

The country has a nine-year old FETP programme, supported by the Regional Field Epidemiology Training Network (EMPHNET) and implemented in close collaboration with the faculty of Medicine in Baghdad. The programme has developed a two-tiered approach: a two-year advanced course and a three-month basic course, especially tailored to country local priorities, called 'Public Health Empowerment Programme' (PHEP). The country has plans to launch an intermediate tier in September 2019 to help develop adequate HR from other health disciplines to work in the public health sector.

Strengths and best practices

- Available FETP programme, as a part of the Regional FETP Network, coordinated and supported by EMPHNET.
- Good coaching capacities and up-to-date curricula, in close coordination with Baghdad Faculty of Medicine.
- Two-tier programme approach.
- The national FETP programme produced 52 advanced epidemiologists to date, and contributed to the training of 75 local level surveillance officers in priority areas of the country.
- Plan to add an intermediate level in Sept 2019 to help better meet provincial level HR needs.

Areas that need strengthening and challenges

- Low attraction for public health professionals, mainly because of lack of equity in the national careers and development strategies in the country (mainly due to lack of incentives).
- The advanced FETP programme thus far restricted to physicians with no consideration to other human health disciplines such as laboratory, veterinary or environmental health professionals.

Recommendations for priority actions

- Develop an intersectoral mechanism to coordinate the exercise of developing, implementing, monitoring and sustaining an adequate intersectoral work force to implement IHR at all country administrative levels, through:
 - an evidence-based identification of needs;
 - revision of MoH and MoA HR development strategies and the development and implementation of a phased approach to fulfil the required number of high-quality human and animal health capacities to implement at various levels;
 - revision/development of relevant HR development plans in other IHR-related sectors.
- Establish a sustainable incentive mechanism to attract and sustain a critical number of good quality experts in IHR capacities at the various country administrative levels.
- Develop adequate budgeted action plans in all IHR-relevant sectors for in-service training to sustain HR capacities, building on available opportunities.
- Accelerate, diversify and expand the country EMPHNET-supported FETP programme to laboratory, animal health (vets and animal health technicians) and environmental health in order to better respond to the various administrative levels' priorities more expediently.

RESPOND

EMERGENCY PREPAREDNESS

INTRODUCTION

Emergency preparedness is defined as “the knowledge and capacities and organizational systems developed by governments, response and recovery organizations, communities and individuals to effectively anticipate, respond to, and recover from the impacts of likely, imminent, emerging or current emergencies.” A state of preparedness is the combination of planning, allocation of resources, training, exercising, and organizing to build, sustain, and improve operational capabilities at national, intermediate and local or primary response level, based on strategic risk assessments. A strategic risk assessment identifies, analyses and evaluates the range of risks in a country and enables risks to be assigned a level of priority. Strategic risk assessments include analyses of potential hazards, exposures and vulnerabilities, identification and mapping of available resources, and analyses of capacities (routine and surge) at the national, intermediate and local or primary levels to manage the risks of outbreaks and other emergencies. Emergency preparedness applies to any hazard that may cause an emergency, including relevant biological, chemical, radiological and nuclear hazards, natural hazards, other technological hazards and societal hazards.

Target

- (1) Existence of national strategic multi-hazard emergency risk assessments, risk profiles and resource mapping.*
- (2) Existence of multi-hazard emergency response plans.*
- (3) Evidence, from after action and other reviews, of effective and efficient multisectoral emergency response operations for outbreaks and other public health emergencies.*

LEVEL OF CAPABILITIES

National disaster management is legislated through the Emergency Use Law (1961 – provision for responding to disasters), Civil defence Law (1978 – that delegates responsibilities for response to emergency situations), Social Care Law (1980 – for assistance and support to victims of a disaster), Public Health Law (1981 – that outlines the functions and roles to be performed in the event of an epidemic), the Constitution of Iraq (2003 – for certain disaster-related responsibilities to the federal government), Financial Management Law (2004- finance for a contingency reserve fund to respond to disasters), Province Law (2008 – that provides a disaster administrative framework for governorates) and the Environmental Protection Act (2009 – for the formulation of the National Plan for disaster Risk Reduction). The National Committee for Disaster Risk Reduction is developing a National Disaster Risk Reduction Law (DRR Law 2013).

Iraq has been exposed to exceptional challenges and damage to infrastructure and its health system over the past couple of decades and has conducted a few risk assessments across the various sectors, but has not conducted a comprehensive multi-hazard risk assessment with the associated resources mapping across the whole country. Effective planning continues to be constrained by insecurity in some parts of the country.

There is a national disaster management framework at the level of the Prime Minister's Office covering all hazards and comprising a wide range of natural hazards (i.e. epidemics, drought, flood, sandstorm, desertification, marshland degradation, fertile land soil salination and earthquakes) and human-induced hazards (i.e. fire, explosion, water/land contamination, environmental pollution, oil and chemical spills, unexploded ordinances, depleted uranium, sabotage and terrorism).

The National Disaster Committee, chaired by the Prime Minister's Office, oversees the operational arrangements of national disaster management. This includes the National Operations Centre (NOC)/ Medical Operations Centre that oversees the initial response through the Crisis Action Cells (CAC) that has the authority for national level disaster management and coordination with all line ministries. The Governorate Emergency Cells (GEC) are responsible for regional level disaster management.

The National Plan for Disaster Risk Reduction (outline risk mitigation, preparedness and response planning) and the National Strategy for Disaster Risk Reduction (outline the functions and duties of government authorities in risk assessment and management) are plans that give effect to the DDR law (2013) that is currently still in draft form. Specific disaster response plans that cover natural disaster, fire, explosion, security oil spills and other relevant plans have been developed by responsible national authorities.

Under the supervision of the Director of the MOC, SOPs for government departments, committees, teams, working groups and centres that will operate under the plan are circulated in preparation of various events, including up to twenty mass gathering events.

The national response plan that exists at cabinet level defines reporting and information exchange. All relevant sectors have a focal point with a defined process to work with focal points in all other relevant sectors to share information, scientific data and recommendations with policy-makers and national leaders

The government is committed to ensuring preparedness of all emergency-related entities for prompt and effective response using the best evidence and available technology. Iraq has articulated their strategic directions in their National Health Policy 2014–2023. The strategic directions include provisions to strengthen core capacities required under the International Health Regulations (2005) for improving public health preparedness for response to acute emerging health security threats and other natural, human-made and technological hazards.

The MoH/MoE leads the work in developing effective emergency medical services, with the necessary infrastructure and systems. They also have responsibility for developing and sustaining emergency-specific guidelines and training all relevant workforces and institutions on the health impact of emergency situations and natural disasters, aiming to enhance preparedness for effective responses.

Understanding disaster risk is essential for sustainable development and Iraq is working towards the principles of the Sendai Framework for Disaster Risk Reduction to analyse risk with a view to "prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political, and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience".

Indicators and scores

R.1.1 Strategic emergency risk assessments conducted and emergency resources identified and mapped – Score 1

Strengths and best practices

- There is a focal person in all ministries to coordinate responses. Focal points convene on an ad hoc basis, according to requests from the emergency coordination cell within the Prime Minister's Office.
- A health sector cluster response plan was developed in 2014 and has been used in several incidents. The plan is updated based on lessons learned after each event. It includes other stakeholders and the community.
- There are contingency plans for selected hazards such as outbreaks, conflicts and mass casualties, etc.
- Some facilities have emergency business continuity plans.
- There is a comprehensive plan for mass gatherings.
- There are preparedness plans for selected priority hazards such as cholera, influenza and floods.
- Roles and responsibilities of several government levels within the health sector are defined in the response plans.

Areas that need strengthening and challenges

- There are differences in mapping responses to emergencies from one area to another.
- No resources mapping has been carried out for expertise, HR, funding, facilities or equipment.

R.1.2 National multisectoral multi-hazard emergency preparedness measures, including emergency response plans, are developed, implemented and tested – Score 2

Strengths and best practices

- US\$ 40 million emergency fund made available for the Minister of Health to release during an emergency, although funds are subject to availability.

Areas that need strengthening and challenges

- Emergency budget line is not inclusive of all expenses during an emergency.
- Budget lines are not sufficiently flexible to cover various response activities based on the type of event.

Recommendations for priority actions

- Accelerate ongoing work related to Sendai Framework for Disaster Risk Reduction by conducting national multi-hazard strategic risk assessment to prioritize public health threats, from all sources and identify resource requirements for response activities.
- Map resource requirements for public health and identify critical information requirements (correlated to nationally notifiable diseases) for the national Public Health Emergency Operations Centre (PHEOC), within the Medical Operation Centre, to monitor on a daily basis.
- Conduct a needs assessment for training needs (including material, equipment and infrastructure).
- Continue to engage the interministerial, intersectoral operations-level working group, including development partners, in reviewing the national public health response plan so it reflects a whole-of government approach to responding to priority public health threats.

EMERGENCY RESPONSE OPERATIONS

INTRODUCTION

A Public Health Emergency Operations Centre (PHEOC) is a central location for coordinating operational information and resources for strategic management of public health emergencies and emergency exercises. PHEOCs 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 coordination mechanism, incident management systems, exercise management programmes and Public Health Emergency Operation Centre (PHEOC) functioning according to minimum common standards; maintaining trained, functioning, multisectoral rapid response teams, and trained PHEOC staff capable of activating a coordinated emergency response within 120 minutes of the identification of an emergency.

LEVEL OF CAPABILITIES

Iraq has several legislations issued to mitigate the suffering of people during public health events and emergencies such as the Emergency Use Law (1961), Civil Defence Law (1978), Public Health Law (1981) and Social Care Law (1980). Additional laws that have been enacted after 2003 include: the Immigration Law, which deals with the issues of internally displaced people; the Governorate Law, which regulates the response between the governorate and central authority in case of disaster; and the Law of Budget Management, which coordinates the allocation of financial resources to disaster-affected areas. To some extent, the response operations follow a reactive pattern to public health outbreaks and disasters.

Sub nationally, across the 18 Governorates in Iraq, each has a Governorate Emergency Cell (GEC) responsible for the initial response to any public health event or disaster. Surge capacity can be provided from the central government authority. In cases of national or widespread impact from an event, a higher coordination committee can be formed under the Prime Minister's Office to manage the province(s) affected.

At the national level Iraq has formally established its National Medical Operations Centre (NMOC) that serves as the national PHEOC, and is creating a health emergency management programme within the MoH. The NMOC has a dedicated space for operations within the MoH and is currently upgrading their infrastructure and equipment. The MoH has pursued the development of a number of documents that outline the policies and guidelines for public health emergency management in Iraq.

The NMOC also serves as a training centre to train both MoH and staff from basic first aid to more specialized training. A variety of exercises has been conducted over the past few years, largely CBRN functional exercises.

These have included: Basra mass casualty functional exercise; chemical incident exercise; and a gas leak exercise in Baghdad, during which the national chemical response team and ambulance team practised the partial evacuation of 5000 people, including transporting affected people to a hospital.

Indicators and scores

R.2.1 Emergency response coordination – Score 4

Strengths and best practices

- The national response plan at cabinet level defines reporting and information exchange.
- There is focal person identified in all relevant sectors to share information.
- There is a national point of contact available for 24/7 coverage of emergency operations.
- An Emergency Medical Team (EMT) is available under the PHEOC director, as well as an incident management system (IMS) that is replicated at the subnational level.
- There is regional training centre within the EOC for EOC and emergency services.
- The EOC uses standardized forms and templates for data/information management, reporting and briefing

Areas that need strengthening and challenges

- The response plan is activated based on the events and not pre-defined.
- The plan does not include levels of activation.
- There is no formal roster in place, although there are informal rosters within some governorates.
- PHEOC plans and SOPs are available at national and subnational levels, however, it does not fully represent the IMS especially in terms of financing and logistics.
- Decision procedures are structured but not documented.

R.2.2 Emergency Operations Centre capacities, procedures and plans – Score 3

Strengths and best practices

- The National Operations Centre (NOC) at cabinet level includes all relevant sectors.
- The MoH has an emergency cell linking it with the cabinet level.
- There is physical PHEOC, three rooms (with main operation room) with 25 trained permanent staff.
- There are reliable power sources with a redundancy system in place for communication.

Areas that need strengthening and challenges

- There is no formal training in public health risk communication for the national and health sector emergency cells.
- Meetings are ad hoc and during emergencies
- There is no formal dissemination for reports with other sectors.

R.2.3 Emergency exercise management programme – Score 3

Strengths and best practices

- A variety of exercises have been conducted over the past few years, with the results documented.

Areas that need strengthening and challenges

- No regular exercises programme that brings together the various sectors

Recommendations for priority actions

- Establish a national poison registry.
- In view of the ongoing evaluation commissioned by H.E. Minister of Health and Environment, consider establishing a unique national emergency call number.
- Review and update standard terms of reference and operating principles while upgrading the PHEOC and consider joining EOC-NET.
- Establish routine after-outbreak or after-action reviews related to all public health events, and document lessons learned with outcomes reflected in updated response plans.

LINKING PUBLIC HEALTH AND SECURITY AUTHORITIES

INTRODUCTION

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

Target

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

LEVEL OF CAPABILITIES

Iraq is facing a range of diverse emergency and disaster situations, especially in the past few decades. Authorities have made significant steps to work around these conflicts. A NBCEC was established linking a number of different ministries in order to coordinate plans and interventions with continuous collaboration and information sharing between the relevant sectors. This committee had conducted a national training in Baghdad, and had supported the response to explosions and chemical events (chlorine attacks).

Each ministry has its own teams that are trained and equipped to deal with emergency conflicts and disasters with support and coordination to other realms in place. Each sector has its own SOPs in place with agreements at the ministerial level to form a joint response to different emergencies and public health outbreaks.

Public health law delegates that the Minister of Health should take any necessary action, including to approach other relevant ministries to respond to certain emergencies as needed. The Minister of Health delegates a focal point at the governorate level to be responsible for prompt action in emergency situations and is to be done in collaboration with the relevant partners including MoI. MoH multisectoral committees are established for each hazardous disease at the governorate level, which is led by the local council. Regular meetings are conducted with proactive planning for potential hazards, such as cholera. The PHEOC plays a pivotal role in coordinating the response to emergencies or disasters at the central level. A security emergency cell is formed at the governorate level and is committed to take action as required by the different ministries in response to any emergency, and also comprises part of the local committee.

The Animal Health Law (regulation 16) states that in case of an outbreak, a high-level multisectoral committee with all relevant partners is formed to respond. There is also a central technical committee for each disease responsible for disease prevention. The Veterinary Institute gains the support of the MoI for animal quarantine in any given area during emergency situations. For example, During CHF outbreak, the MoI was approached by the committee on zoonotic diseases to activate the necessary response measures. It was done through official administrative process (official letters), but no official SOPs are present to facilitate prompt action and sparing administrative communications. Also, during the avian influenza outbreak, measures were taken to ban poultry from entering prior to the sample investigation, entry is subject to laboratory results and is controlled by MoI in collaboration with MoH.

Food safety committee includes focal persons from MoI, and a multisectoral team is dedicated to take action and respond to any breaches in food security. Even goods transportation is followed up until reaching the destination storage sites.

During disease outbreaks among high risk populations, sample transportation is done with the assistance of MoI, reflecting the high level of cooperation.

The MoI role is not limited only to interventions; legislation and policy development is in line with the other ministries' regulations to promote coherence. The MoI role is not confined only to cases, but also includes case contacts.

Indicators and scores

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

Strengths and best practices

- The health and security sectors collaborate to respond to emergencies through a set of control and response measures, as well as through strong collaboration for responding to public health events with neighbouring countries.
- An infectious diseases general plan is present at the central level, and local plans are developed at governorate level.
- The national laws and plans do define the role and responsibilities of each sector. The national preparedness plan enlists the roles and responsibilities of each sector including the security sectors. In each committee that exists, it is evident that the security sector is well represented and has clear, defined roles.
- The country has an allocated budget that can be dispersed to respond to public health events and emergencies.

Areas that need strengthening and challenges

- Simulation exercises to test collaboration between the public health and security sectors.
- The numerous and different security sectors between KR-I and the federal government leads to the complexity of approval processes granted at different levels, which causes delays for clearances and implementation.
- Interventions including quarantine highlight contradictions between the higher court law and public health law, and this was reflected in the recent law update.
- The system is not proactive, but rather retroactive by responding to emergencies upon occurrence. Also, the sharing of information between the public health and security sectors is not systematic or timely.
- Fund mobilization towards emergency response upon occurrence is not an authorization of the management but requires much higher approvals, this poses a delay to shifting funds rapidly and timely emergency responses.
- Animal movement across the country is not random, health certificates must be issued and checked by various security checkpoints for easy transportation. However, security staff at checkpoints are not acquainted with these forms and joint capacity-building is needed at this level to avoid breaches.
- Joint training between the different sectors.
- SOPs on the risk assessment and response to public health events.

Recommendations for priority actions

- Plan and conduct joint training programmes between public health and security sectors, especially at the governorate levels.
- Document collaboration between public health and security sectors in responding to public health threats.

MEDICAL COUNTERMEASURES AND PERSONNEL DEPLOYMENT

INTRODUCTION

Medical countermeasures are vital to national security and protect nations from potentially catastrophic infectious disease threats. Investments in medical countermeasures create opportunities to improve overall public health. In addition, it is important to have trained personnel who can be deployed in case of a public health emergency for response. Regional (international) collaboration will assist countries in overcoming the legal, logistic and regulatory challenges to deployment of public health and medical personnel from one country to another. Case management procedures should be available to all staff, and implemented across the system during health emergencies due to IHR-related hazards.

Target

National framework for transferring (sending and receiving) medical countermeasures, and public health and medical personnel from international partners during public health emergencies and procedures for case management of events due to IHR-related hazards.

LEVEL OF CAPABILITIES

Iraq has a number of pharmaceutical manufacturers that produce medications and medical supplies. However, none of them has the capacity to produce vaccines or drugs that can be used to respond to public health emergencies. As a result, these must be purchased from external manufacturers. KIMADIA, in the MoH, has the legal mandate and authority to procure medical countermeasures. A system is in place for KIMADIA to purchase medical countermeasures through contracts with domestic and international companies. A stock of 20% is dedicated to emergencies and is part of all procurements. As reported, the process for the procurement is lengthy and causes delay in meeting the routine services. Several public health events and emergencies occurred in the country that necessitated the procurement of additional medical countermeasures. As reported, KIMADIA has a fast track system in place to expedite the procurement process, this may have not been followed, as delay in the procurement of medical countermeasures to respond to different public health emergencies was reported.

The country has several rapid response teams to investigate and respond to public health emergencies but these teams are not multidisciplinary and do not exist at all levels of the country. Emergency Medical Teams do not exist throughout the country. Discussion is ongoing with WHO to establish such teams and build tiered capacities to serve the country and potentially be part of international teams. The country receives several public health personnel through various international organizations and UN agencies and also directly through the government to support the risk assessment, evaluation, planning and response to public health emergencies. Obtaining visas takes time and there is no system to expedite issuing visas for the rapid deployment of personnel. Also, medical teams from international organizations and countries have been deployed to provide the needed support. These teams can legally practice medicine in the country. System or SOPs for the licensing and accreditation of these teams do not exist.

The country has identified priority epidemic-prone diseases. Case management guidelines are in place for these diseases. However, there is no generic guidelines that can be used to manage cases infected with unknown infectious hazards. Also, guidelines for the management of case contaminated with chemical and radiation events do not exist. A referral system is in place supported by ambulance services, but is mostly on call, particularly at points of entry. In areas under conflict, the referral system functions but with severe challenges.

Indicators and scores

R.4.1 System in place for activating and coordinating medical countermeasures during a public health emergency – Score 3

Strengths and best practices

- Plans that identifies the country need for medical countermeasures for routine and emergency uses are in place.
- Legal and regulatory systems are in place for sending and receiving medical countermeasures during public health emergencies.
- Medical countermeasures were received to respond to different public health emergencies occurring in the country.

Areas that need strengthening and challenges

- Establish a system that follows an expedited regulatory process for the sending and receiving of medical countermeasures to respond to public health emergencies that do not necessarily follow the routine system, in order to avoid delays in receiving medical countermeasures needed to respond to public health events and emergencies.
- Logistics system for receiving and distribution of medical countermeasures with trained personnel.
- Electronic inventory system to monitor the shelf-life of medical countermeasures, rationalize their use and rapidly replenish according to needs.
- Establish formal procurement agreements with countries that outline criteria and procedures for sending and receiving medical countermeasures for human and animal use.
- Establish formal procurement agreements with external companies and international organizations that outline criteria and procedures for sending and receiving medical countermeasures for human and animal use.

R.4.2 System in place for activating and coordinating health personnel during a public health emergency – Score 1

Strengths and best practices

- The country receives public health personnel to support the response to public health emergencies through various international organizations and UN agencies serving in the country. The normal process for obtaining visas has to be followed for the deployment of such personnel.

Areas that need strengthening and challenges

- Plans for the development and strengthening of Emergency Medical Teams for national response.
- Plans that outline a system for sending and receiving health personnel during public health emergencies.
- Plan that outlines surge staffing for responding to public health emergencies, and SOPs for their deployment.
- System that expedites the deployment of public health personnel to support the response to public health emergencies.
- System that facilitates and standardizes the licensing and practice of medical personnel deployed from different countries to Iraq.
- Participate in a regional and international partnership, such as GOARN, to expose national public health teams to different experiences and gain experience from the deployment of GOARN teams to the country.
- Establish formal agreements with countries that outline criteria and procedures for sending and receiving health personnel.

R.4.3 Case management procedures implemented for IHR relevant hazards – Score 2*Strengths and best practices*

- Case management guidelines are available for priority epidemic-prone diseases.
- Availability of patient referral and transportation mechanism.
- Availability of staff trained in case management of priority epidemic-prone diseases.

Areas that need strengthening and challenges

- SOPs (according to national or international guidelines) for the management and transport of potentially infectious patients at the local level and points of entry.
- Trained staff in case management of public health emergencies related to chemical, radiation and unknown infectious hazards.
- Resources for the management of public health emergencies
- Patient referral and transportation mechanism in areas under conflict.

Recommendations for priority actions

- Ensure fast-track approval procedures are in place for sending and receiving medical countermeasures with allocated emergency funding.
- Develop protocol/guidance/procedures for active participation in Global Outbreak Alert and Response network (GOARN) and development of Emergency Medical Teams (EMTs).
- Develop and disseminate policies and protocols for sending and receiving personnel to other organizations/agencies, in country and internationally, to respond to public health events.
- Develop and provide training on case management guidelines for cases contaminated with chemicals and/or radiation.

RISK COMMUNICATION

INTRODUCTION

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

Target

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

LEVEL OF CAPABILITIES

Besides emerging from several decades of conflicts and withstanding long periods of insecurity, Iraq has also been prone to public health emergencies such as earthquakes, floods and infectious disease epidemics. Over recent years, the country has witnessed a handful of natural disasters and outbreaks including viral haemorrhagic fever (VHF) in July 2018, a gastroenteritis outbreak in Basra in August 2018, a fish crisis in Babylon in November 2018, a food poisoning outbreak in Khazer camp for internally displaced people in June 2018, a cholera outbreak in various locations in 2015, flash flooding in Mosul in November 2018, an earthquake in Suleimaniah in November 2018. These health emergencies have led to devastating effects, bringing to the fore the need to harness national risk communication interventions in the areas of preparedness, response and mitigation.

Risk communication and health promotion are tightly interlinked, and confusion often prevails regarding the two concepts when addressed by national health authorities. There are no strategic documents, guidelines, SOPs directly related to risk communication other than a draft national risk communication concept note. Most of the national disease-specific preparedness and response plans (e.g. immunization, maternal, neonatal and child health) do refer to the importance of risk communication and community engagement. However, there is little integration of these two core areas during implementation. Nevertheless, existing plans represent a good foundation for the development of a multisectoral all-hazards national risk communication strategy integrating media and social media communication, social mobilization and community engagement.

A governmental media cell within the Department of Media and Governmental Communication has been created under the general secretariat of the Council of Ministers to lead and coordinate communications during emergencies. A spokesperson is appointed in each ministry but roles and responsibilities are still not well defined in case of emergency responses. A budget is allocated for communication initiatives but not specifically dedicated to risk communication.

Health communication is managed by the Department of Media and Health Awareness through an active network of public health and community health workers at the national and provincial levels. The awareness and health promotion unit within this department is responsible for developing messages during emergencies and identifying optimal outreach approaches and communication channels. Coordination with health care facilities during health emergencies is led by this unit with the involvement of the local primary health care committee and ad-hoc cooperation from civil society and local communities. Monitoring and evaluation activities are conducted through supervisory visits, health awareness campaigns and surveys, although are not formally documented and integrated in new initiatives. Although health awareness trainings have been conducted on a variety of subjects, there is a need expressed by all concerned parties for developing the capacity and training all staff involved in risk communication.

Coordination, standardization and uniform implementation of communication interventions at all levels are inadequate. During past outbreaks, although many partners and stakeholders actively supported the national response interventions, there is no mapping of national communication resources and capacities to coordinate implementation and minimize duplication of effort and resources.

The country is very active in the development of information, education and communications material around a wide range of health topics. To make good use of best practices and lessons learned, this wealth of information needs to be consolidated under a national repository that is accessible to all partners involved in risk communication.

In relation to communication with partners and vulnerable populations during emergencies, there have been incidents (e.g. Basra outbreak) in which communication was not properly handled leading to conflicting advice and loss of trust in the official communication channels. Furthermore, coordination and clearance of messaging are not well established between stakeholders outside the government, such as nongovernmental organizations.

The media sector in Iraq is actively involved in covering and reporting on health events with social media and blogging significantly gaining ground. Security events, along with news related to the activities of government officials, are prioritized. The MoH has its own health radio station which broadcasts within Baghdad, as well as a health magazine and a regularly updated official website.

Indicators and scores

R.5.1 Risk communication systems for unusual/unexpected events and emergencies – Score 2

Strengths and best practices

- Recognition of risk communication as a core component of emergency preparedness and response.
- Strategic momentum given the concurrence of the JEE and National Action Plan for Health Security with the rehabilitation of the health sector under the leadership of a seasoned minister.
- Good communication expertise within WHO Country Office team.

Areas that need strengthening and challenges

- Absence of a clear mandate and ToRs during emergency for the Department of Media and Health Awareness at the MoH.
- Absence of a national multisectoral emergency risk communication strategy and action plan, hence lack of SOPs in case of emergencies.
- Lack of dedicated and trained core team in risk communication.
- Major gaps in capacity and coordination of risk communication resources (human, financial, and technical) during emergencies.

R.5.2 Internal and partner coordination for emergency risk communication – Score 2

Strengths and best practices

- National recognition of the importance of internal and partner coordination for emergency risk communication.
- Ad hoc agreement between MoH and some partners for endorsement and dissemination of risk communication messages.

Areas that need strengthening and challenges

- Strengthening multisectoral coordination and collaboration at all levels of government entities in the area of risk communication.
- Formalization of coordination and collaboration mechanisms and protocols between government and stakeholders involved in risk communications.

R.5.3 Public communication for emergencies – Score 1

Strengths and best practices

- Management of communication during emergencies by the government media cell under the general secretariat of the Council of Ministers, with each ministry having an official spokesperson.
- Official social media quite active during emergencies, although lack of a social media strategy.
- Some media surveys have been conducted in the community to assess impact and reach of current health communication efforts.
- Established mechanism for organization of press conferences and media events.

Areas that need strengthening and challenges

- Limited understanding of risk communication concepts and its application on disease epidemics. Often confused with health promotion.
- Absence of clear lines of communication among various ministry spokespeople.
- Absence of operational research to inform approaches for behaviour change during emergency.
- Communication is mainly conducted in Arabic and needs to include other languages (e.g. Kurdish).
- Capacity development and training on risk communication of all key sectors involved in emergency preparedness and response.
- Training for media personnel about informed reporting and responsible coverage in the context of health emergencies.

R.5.4 Communication engagement with affected communities – Score 2

Strengths and best practices

- Active network of public health staff and community workers to support communication interventions during emergencies.

Areas that need strengthening and challenges

- Absence of clear lines of communication and feedback (2-way) between affected communities and health authorities during emergencies.
- No baseline data for analysis of existing knowledge behaviour/attitude of affected communities regarding health hazards in the country.
- Absence of systematic assessment and feedback from affected populations to inform content and approaches of communication interventions.

R.5.5 Addressing perceptions, risky behaviours and misinformation – Score 2*Strengths and best practices*

- General mobilization during emergencies to monitor and address rumours.
- Role of the division of community initiatives within MoH.

Areas that need strengthening and challenges

- Absence of a systematic mechanism for continuous and routine media monitoring.
- Limited allocation of resources to establish two-way communication channels to respond to rumours and misinformation.
- Ad hoc rumour tracking and response system currently in place.

Recommendations for priority actions

- Develop a multisectoral and multi-hazard risk communication strategy and action plan integrated with national plans for public health emergency.
- Establish a multisectoral and multi-disciplinary technical advisory board to guide evidence-based development and implementation of risk communication.
- Review and upgrade the structure and functions of the risk communication unit at MoH to better fulfil its mandate across all IHR-bound sectors.
- Formalize the existing risk communication coordination mechanism among relevant ministry entities and stakeholders.
- Establish a network and build the risk communication capacity of existing communication staff at national and provincial levels.
- Develop and formalize a system for rumour and misinformation tracking and response.

IHR-RELATED HAZARDS AND POINTS OF ENTRY

POINTS OF ENTRY

INTRODUCTION

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

Target

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

LEVEL OF CAPABILITIES

Iraq has 26 points of entry (PoE) (five airports, six ports and 15 ground crossings) that carry international traffic. Some PoE are not functional in some areas due to the security situation.

Three of the 26 PoE are designated to implement IHR capacities: Baghdad international airport, Zurbatai ground cross and Khor El Zubair port. The selection was based the existing capacities, the volume and frequency of population and goods movement, the potential risk exit in the areas where these PoE are located, and the type of services provided at these PoE.

IHR assessment of the designated PoEs was previously conducted on a regular basis by the IHR NFP and IHR multisectoral committee in order to monitor the progress in IHR capacities. Also, training of staff used to be done regularly by the MoH, which is the competent authority for these designated PoE. However, the latest assessment was conducted more than two years ago. As such, assessment of PoEs is urgently needed, particularly in light of the challenges faced by the country and the insecurities that might have changed the status of IHR implementation at these designated points of entry. Furthermore, assessment will be needed of all PoEs in order to review the decision of designating specific.

The JEE team was not able to conduct a field visit to validate the information reported about the IHR capacities at PoE through the self-assessment and through the technical presentation delivered by the concerned team during the external evaluation phase.

As reported, several stakeholders operate at the various POEs. This includes: Ministry of Finance, MoI, Ministry of Defence, Ministry of Transportation, MoH, MoA, Ministry of Tourism, MoT, National Security Service and National Intelligence Service. A fair level of coordination between these stakeholders exists but is variable.

Routine services are provided at the three designated PoEs. Staff and equipment are available to provide the required services. Such services include: Medical services, available for the initial assessment and care of ill passengers and staff; diagnostic facilities (not physically located at the PoE but access to them inside the country is granted); ambulance services are either physically available or available on call for the transport of ill passengers to medical facilities; regular water supplies and food samples (from eating establishments and catering facilities) collection and testing. Interview rooms for suspected cases of infectious diseases are also available at the designated PoE. MoH shares the Epidemiological weekly report with PoEs and follow up is ongoing with the PoE focal points. Animal and agriculture surveillance are functional at PoEs. More than 22 sectors from different ministries are present at PoEs, and are part of the animal and agriculture surveillance.

In some PoEs, a medical checkpoint is established to follow up on HIV status (laboratory tests) of travellers remaining in country for more than 10 days. Fees are charged in case the travellers were lost to follow up (defaulters).

Inspection programmes for goods and animals are in place. For goods importation, three samples are taken: for MoH, for the inspection department, and for quality control. The imported goods are transported and stored in private storage sites of importers and reserved until the tests are revealed (around two weeks, accelerated according to the expiry date of goods). Random sampling is taken after goods are distributed to the market. For animal importation animals should be quarantined 21 days at country of origin, no quarantine services are present at Iraq's PoEs except at Baghdad international airport, which is not a major PoE for animal importation. Veterinary clinics are present at PoEs. The veterinarians at POEs receive a regularly updated list of countries with banned animal and animal product importation. In instances where a disease occurs in the country of origin after goods have been imported, administrative letters are usually sent to alert all PoEs in Iraq. Samples are also collected and tested by MoH for animal food products. However, physical investigation is done by veterinary services for living animals.

The designated PoEs have a public health contingency plan for preparedness and response to public health emergencies, which is an integral part of the provincial public health emergency preparedness and response plan.

Trained personnel are available at the designate PoEs but are not sufficient. Training programmes for PoE staff to implement IHR (2005) are present, but again are limited and do not cover all essential aspects.

In times of religious tourism, the PoEs are strengthened with personnel to increase health service delivery. A central higher committee is formed during peaks of religious tourism to ensure smooth service delivery to tourists/travellers. Additional medical checkpoints are also established at PoEs and on routes to the holy places to follow up on all issues related to health service delivery including food safety practices.

Vaccination services are also provided at PoEs.

Indicators and scores

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

The designated points of entry have developed have access to appropriate medical services including diagnostic facilities for the prompt assessment and care of sick travellers and access to appropriate medical services, such as equipment and personnel for the transport of sick travellers to an appropriate medical facility. These capacities are available at the three designated PoEs. The level of these capacities is expected to be less if the points of entry are designated using the risk assessment approach.

Strengths and best practices

- Access to hospitals to assess and treat ill passengers and access quarantine places for animals.
- Access to laboratory capacity to test for different pathogens and contaminants.
- Access to equipment and personnel for the transport of sick travellers to an appropriate medical facility.
- Inspection programmes to ensure safe environment at PoE facilities.

Areas that need strengthening and challenges

- Human resource capacity for the detection, reporting and response to public health events through training activities.
- Laboratory services are distant from PoEs. There is a system of specimen referral but delays are evident in light of the distances involved.
- Storage and quarantine sites at PoEs, which are currently available inside the country but not at PoEs.
- The country is not part of the 'single window' system for the information-sharing about imported products and the results of their testing.
- Surveillance and control of disease vectors/reservoirs in and near PoEs.
- Trained personnel for the inspection of conveyances.

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

Public health emergency contingency plans at designated points of entry are integrated into the national emergency response plan and ad hoc measures related to travellers at PoEs (such as referral system, transport) for the safe transfer of sick travellers to appropriate medical facilities, are in place. These capacities are available at the three (of 26) designated PoEs. The level of these capacities is expected to be less if the points of entry are designated using the risk assessment approach.

Strengths and best practices

- Public health contingency plans at designated PoEs. The plan is integrated to the provincial contingency plan.
- Safe referral and transfer of sick travellers to appropriate medical facilities.

Areas that need strengthening and challenges

- SOPs for the detection, reporting and response to different public health events and emergencies.
- Capacity to apply public health measures that may be recommended by the WHO (e.g. such as exit/entry screening, isolation, quarantine, contact tracing) to prepare and respond to public health events of national and international concern.
- Memoranda of understanding, SOPs, trained staff, equipment and regular exchange of information for safe referral and transfer of sick travellers to appropriate medical facilities between points of entry, health authorities and facilities for all designated PoEs.
- Capacity to apply measures to de-insect, de-rat, disinfect, decontaminate or otherwise treat baggage, cargo, containers, conveyances, goods or postal parcels, when needed.
- Effective response to public health events at PoEs.

Recommendations for priority actions

- Using the risk assessment approach, review and update the list of designated PoEs. Develop a plan for IHR implementation for designated PoEs.
- Conduct cost-effectiveness analysis for goods storage sites (private versus governmental) to recommend reactivation of public storage sites.
- Ensure MoH is part of the single window system for trade facilitation.
- Establish/integrate vector surveillance and control at PoEs.
- Develop a training plan on IHR related requirements for staff at PoEs.
- In the long term, develop a plan to renovate infrastructure.

CHEMICAL EVENTS

INTRODUCTION

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

Target

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

LEVEL OF CAPABILITIES

Capacities' for detecting and managing chemical events are lacking in Iraq. Similar to other governmental functions, lack of financial and human resources is a major gap that is currently hindering the work of all related institutions. While efforts should continue to make essential financial and human resources available, actions by all concerned stakeholders should be focused on filling other gaps that require minimal financial resources, such as human resources development, updating policies, legislations and SOPs, networking and coordination between the different stakeholders through national public health emergency plans.

Iraq has been facing emergencies due to chemical incidences over the past few decades, and particularly there have been many recent incidents that made the country relatively vigilant, and prepared for responding to chemical events in the country. Accordingly, several chemical, biological and radio-nuclear (CBRN) teams were established. The capacities built during the recent events improved chemical incident detection and response in Iraq. Unfortunately, the capacity of the health sector to clinically manage intoxications is still weak. Available resources are not adequate to keep up with the growing risk of chemical incidents, and the system has to be improved with necessary policy changes, strategies and initiatives, as well as required funding, technological and networking inputs.

Iraq has signed/ratified the following chemical-related international treaties:

- The Chemical Weapons Convention (ratified in 2009).
- The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (ratified in 2011).
- The Minamta Convention on Mercury (signed in 2013).
- The Stockholm Convention on Persistent Organic Pollutants (ratified in 2016).
- The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals in International Trade (ratified in 2017).

Being party to these treaties makes significant chemical safety resources available to Iraq. Unfortunately, these resources are not being fully utilized due to poor coordination between the focal points of these treaties and other related stakeholders.

Iraq's participation in other international networks such as the Chemicals and Health Network and the Chemicals Health Risk Assessment Network is still weak. These networks will help in implementing the WHO Global Chemicals Roadmap to enhance health sector engagement in the strategic approach to international chemicals management (SAICM) towards the 2020 goal and beyond.

MoH/MoE are responsible for surveillance, detection and monitoring of any chemical events and chemical safety management programmes. There has been an established poison control centre in the MoH since 1998 for management of toxicity and poisonous cases in Iraq. The centre also provides information about any toxic materials. Recently an extension of this centre was established in Thi Qar Governorate. Unfortunately, services of both centres are not available 24/7.

There is a national chemical response plan in Iraq involving several stakeholders including: CBRN teams as first responders; MoH/MoE departments of chemical monitoring and assessment of polluted sites detecting, surveillance, monitoring, chemical safety, implementation of international conventions related to chemical management; poison centres; MoT laboratories for detecting any chemical hazards in goods and imported foodstuffs; and Ministry of Science and Technology for detecting and management of chemical events and remediation of polluted sites. The responses of the health sector need to be integrated into this plan.

Indicators and scores

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

Capacity for detecting and responding to major chemical events is lacking and scattered between different stakeholders in Iraq. Guidelines, manuals and SoPs on surveillance, assessment and management of chemical events, intoxication and poisoning are available but fragmented with different stakeholders. The capacity of the poison centres is limited and not available 24/7. Surveillance of toxicity and human poisonings needs to be further strengthened. The current indicator and event-based surveillance systems do not capture chemical events and poisonings adequately.

Strengths and best practices

- During the past couple of years, several chemical events occurred in Iraq which were handled by a national committee for chemical, biological, radiation and nuclear hazards (CBRN) and response teams.
- The MoH Medical Operation Centre operates a promising injury surveillance system that captures some poisonings with toxic chemicals. This system can be modified to capture all human poisoning with chemicals.
- During an alert generated by the existing surveillance system, the CBRN team will conduct necessary assessments and report to the crisis cell in the cabinet of ministries, and guide on response procedures.

Areas that need strengthening and challenges

- Lack of human and financial resources is a major challenge facing Iraq's capacity to detect and respond to chemical events.
- Updating guidelines and SOPs on the surveillance, assessment and management of chemical events, intoxication and poisoning.
- Need for procedures for risk assessment in chemicals surveillance/monitoring, to trigger/mount a response of suitable composition and magnitude.
- Weak central surveillance and monitoring system. There are no chemical reference laboratories. Poor technical readiness in various other chemical laboratories.
- There is no poisoning centre functioning 27/7 that is equipped with reliable laboratory and treatment facilities. Efforts should be concentrated on identifying the most hazardous chemicals in the country and build the poison centre to detect, inform, and manage these chemicals.
- Designation and equipping health care facilities to be responsible for clinical management of people exposed to toxic chemicals.

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

A national policy, action plans and legislation, albeit fragmented, for surveillance, alert and response to chemical events exist. There are several chemical legislations but they are not sufficiently enforced. Although ad hoc responses to chemical events in petroleum establishments were practiced in the past 10 years, there is no comprehensive strategic plan for chemical safety or a national chemicals management profile.

Strengths and best practices

Most of the international agreements and conventions on chemical safety (i.e. Stockholm, Basel, Rotterdam, Minamata, and the Chemical Weapons Convention) are ratified by Iraq, offering substantial international resources to the various Iraqi stakeholders

- Stockholm Convention on Persistent Organic Pollutants (2005).
- Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction (2004).
- Rotterdam Convention on Certain Hazardous Chemicals in International Trade (2002)
- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (2001).
- Minamata Convention on Mercury (2017)

Areas that need strengthening and challenges

- There is no updated chemical profile for Iraq.
- Existing chemical residues of previous incidences.
- Existing and expanding oil, petroleum and chemical industries in the country without standard chemical safety measures.
- Policies and procedures to ensure permanent control over all activities related to chemical safety management need to be synchronized between all the related stakeholders.
- Multisectorial/interdisciplinary coordination mechanisms with regard to chemical safety need to be strengthened.
- Flow of information on chemicals surveillance/monitoring between all relevant stakeholders needs to be regulated and improved.
- There is no comprehensive plan for the disposal of chemical waste.
- Lack of the availability of systematic assessment of chemical safety, with the absence of relevant systems and plans.
- There are no real assessments of basic public health related to the topic of chemical safety.

Recommendations for priority actions

- Identification of the most hazardous chemicals in Iraq through evidence based multisectoral health risk assessments. These chemicals should represent the backbone of the national poisoning surveillance and clinical management systems.
- In close coordination with CBRN teams, designating specific hospital(s) for clinical management of victims of chemical events. This will require training and supply of essential equipment, as well as antidotes and other medicines.
- Strengthen the capacity of the poison consultation centre for providing information and advisory services 24/7 to all parts of Iraq. This requires networking with other poison centres at national and regional levels, improving the technical capacity of existing surveillance, laboratory and linkages with response teams.
- Improving the coordination between the different sectors responsible for management of chemical events in line with the multi-hazard national public health emergency preparedness and response plan to meet IHR core capacity requirements.
- Strengthening the capacities for chemical event detection, reporting and response.
- Updating the chemical waste management mechanisms and related SOPs.

RADIATION EMERGENCIES

INTRODUCTION

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

Target

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

LEVEL OF CAPABILITIES

Iraq's capacity to detect and respond to radiation and radio-nuclear events is established. SOPs, guidelines and resources of the health sector need to be strengthened for clinical management of radiation victims. A radiation emergency response plan exists with clear roles of related sectors, but the roles of the health sector need to be streamlined and clarified.

Capacities for detecting and managing radiation emergencies are developed. Similar to other governmental functions, lack of financial and human resources is a major gap that is currently hindering the work of all institutions. While efforts should continue to make needed financial and human resources available, actions by all concerned stakeholders should be focused on filling other gaps that require minimal financial resources such as human resources development, updating policies, legislations and SOPs, networking and coordination between the different stakeholders through national public health radiation emergency plans.

Effective national and global response arrangements and capabilities are essential to minimize the impacts from nuclear and radiological incidents and emergencies. The International Atomic Energy Agency (IAEA) maintains the international Emergency Preparedness and Response (EPR) framework, which is based on the international legal instruments. Iraq's capacity and cooperation on adopting this framework is increasing and most of the international conventions are ratified and processes for their implementation are in progress. Several stakeholders are involved in managing issues related to radiation emergencies such as the Ministries of Health, Science and Technology, Defense, Interior and Industry, as well as others such as petroleum sectors, universities and research centres. Unfortunately, these capacities are fragmented. Coordination and flow of information among all related sectors are weak.

Indicators and scores

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

Iraq has not faced any significant radio-nuclear emergencies during the past 15 years. However, more preparedness and response initiatives have been launched in the country due to the radio-nuclear hazards potentially expected from regional conflicts. The capacities built during the recent years by the IAEA improved the radio-nuclear contamination detection and decontamination process in Iraq, and the system has to be improved with necessary policy changes, strategies, and initiatives with necessary funding, technological and networking inputs.

Strengths and best practices

- Technical guidelines and SOPs have been developed, evaluated and updated for the management of radiation emergencies.
- Iraq has already ratified the international convention on assistance in the case of a nuclear accident or radiological emergency, which opens the door for major support and capacity building opportunities.
- There is an established Radiation Protection Centre (RPC) in the MoH/MoE that has a surveillance system that includes radio-nuclear contamination detection and disposal of radio-nuclear contaminants.
- Iraq developed a national plan of action for responding to radiation hazards.
- There is a data base of radio-nuclear incidents with regular surveillance and update process.
- During an alert generated by the surveillance system, RPC will conduct the necessary assessment and report to the Ministry of Science and Technology for action.
- Radiation hazard sites in Iraq are mapped.

Areas that need strengthening and challenges

- Lack of human and financial resources.
- Capacities of laboratory services for MoH/MoE and the Ministry of Science and Technology are limited and need further strengthening.
- Poor coordination between RPC and other relevant sectors.
- Security and safety of the staff working for radio-nuclear event detection and response.

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

There is a national strategic plan for radiation safety, and response plan for radiation emergencies with clear roles and responsibilities for all related sectors. Unfortunately, the role of the health sector in clinical management of people exposed to radiation needs to be further elaborated.

Strengths and best practices

- Iraq ratified Early Notification and Assistance in Case of Nuclear Emergency (1986) conventions.
- Implementing SOPs recommended by the IAEA.
- Implementing recommendations of IAEA following regular monitoring and evaluation by IAEA.
- There are plans for national and international transport of radioactive material, samples and waste management including those from hospitals and medical services.

Areas that need strengthening and challenges

- Unclear role of the health sector during radiation emergencies.
- Unstable political status of the country and related conflicts that may trigger radio-nuclear emergencies in the country.
- Radio-nuclear risks due to neighbouring countries.

Recommendations for priority actions

- Update the national plan of action for responding to radiation hazards by streamlining and clarifying the role of the health sector in clinical management, surveillance and risk communication.
- In close coordination with CBRN teams, designating specific hospital(s) for clinical management of victims of radiation and radio-nuclear emergencies. This will require training and supply of needed equipment, antidotes and other medicines.
- Improving the coordination between health, environment, industry, science and technology, CBRN and other related sectors responsible for management of radiation and radio-nuclear events in line with the multi-hazard national public health emergency preparedness and response plan to meet IHR core capacity requirements.
- Improving the technical capacity of existing surveillance, laboratory and response teams, and networking with neighbouring countries for radiation and radio-nuclear event detection, reporting and response.
- Updating the radioactive waste management mechanisms and SOPs.

APPENDIX 1: JEE BACKGROUND

Mission place and dates

Baghdad, Iraq; 12-17 March 2019

Mission team members:

- Dalia Samhouri, Manager, Country Health Emergency Preparedness and IHR, WHO Health Emergencies Program, Regional Office for the Eastern Mediterranean, Cairo, Egypt (team lead).
- Rajesh Sreedharan, Team Lead, Country Health Emergency Preparedness and IHR, WHO Health Emergencies Programme, Geneva, Switzerland (team co-lead).
- Mazen Malkawi, Regional Advisor, Center for Environmental Health Activities, WHO Regional Office for the Eastern Mediterranean, Amman, Jordan.
- Frank Konings, Regional Advisor, Public Health Laboratories, WHO Regional Office for the eastern Mediterranean, Cairo, Egypt.
- Bassem Zayed, Technical Officer, Department of communicable disease and Control, Regional Office for the Eastern Mediterranean, Cairo, Egypt.
- Asma Oulebsir, Veterinary Epidemiologist, Food and Agriculture Organization, Rome, Italy.
- Ezzeddine Mohsni, Global Health Security Advisor, Eastern Mediterranean Public Health Network, Amman, Jordan.
- Genevieve Howse, Public Health Lawyer, Howse Fleming Legal, Australia.
- Peggy Hannah, risk communication expert, Biuret, Lebanon.

Objective

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

The JEE process

The JEE process is a peer-to-peer review. The entire external evaluation, including discussions around the priority actions, the strengths, the areas that need strengthening, best practices, challenges and the scores are collaborative, with JEE team members and host country experts seeking full 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 experts, or among the host country experts, the JEE team lead will decide the outcome; this will be noted in the final report along with the justification for each party's position.

Limitations and assumptions

- Prior to the visit, several communications took place with assessment team members and experts in Iraq to review the agenda, responsibilities, and logistics. A national training was conducted on 14–15 January 2019 to provide national stakeholders with the information and resources necessary to participate successfully in the JEE process; and to provide guidance on self-reporting requirements and responsibilities. Background documents were collected and shared with the JEE team along with the complete JEE tool for review.
- One-day orientation was provided to the JEE external experts on the JEE process and tool, objectives and expected outcomes, and to discuss and finalize the agenda of the mission. Meetings with the relevant stakeholders and field visits were conducted to validate the collected information and to reach a consensus on the scores and priority actions.
- A debriefing meeting was held with senior officials and with national technical teams involved in the evaluation to present the outcomes of the JEE, best practices and priority actions.
- The national team showed a high level of openness and transparency in the discussion and sharing documentation. However, the evaluation was limited to one week, which limited the amount and depth of information that could be managed.
- It is assumed that the results of this evaluation will be publicly available.
- The evaluation is not just an audit. Information provided by Iraq will not be independently verified but will be discussed and the evaluation rating mutually agreed to by the host country and the evaluation team. This is a peer-to-peer review.

Key host country participants and institutions

Led by His Excellency, Dr Alaa Alwan, Minister of Health and Environment.

Co-Led by the Director General of Public Health Directorate in the Iraqi Ministry of Health, Dr Riyadh Abdul-Ameer Hussein.

Full list of participants

- A'aed Thidan, Ministry of Health.
- Abdul Abbas Nasir, Ministry of Health.
- Abbas Mahmoud, Ministry of Health.
- Ahmed Hassan, Ministry of Health.
- Ahmed Hamed, Ministry of Finance.
- Asaad Mahdi, Ministry of Health.
- Amir Mousa, Ministry of Agriculture.
- Ahmed Yassin, Ministry of Health.
- Adnan Khistawi, Ministry of Health.
- Ali Abdul-Sahib, Ministry of Health.
- Ammar Salim, Ministry of Health.
- Ali Abdul-Maoujod, The Sunni Endowment.
- Ahmed Khadum, Ministry of Health.
- Abdul -hussein Mohammed, Ministry of Health.
- Ammar Hamid, Ministry of Health.
- Ali Nea'ma, Ministry of Health.
- Ammar Abdullah, Ministry of Health.

- Bayan Hassan, Ministry of Health.
- Bashar Abdul-Lateef, Ministry of Health.
- Bashar Raouf, Ministry of Health.
- Badr Mouhan, Ministry of Health.
- Baqir Hussein, Ministry of Health.
- Dhefaf Jabar, Ministry of Health.
- Dhyaa Ghanum, Ministry of Health.
- Emad Shakir, Ministry of Health.
- Furat Qassim, Ministry of Defence.
- Faris Allami, Ministry of Higher Education.
- Ferhad Majeed, Ministry of Health.
- Hadeer Na'aem, Ministry of Health.
- Haydar Thahir, Ministry of Health.
- Hassan Anwar, Ministry of Health.
- Hussein Mahdi, Ministry of Health.
- Hast Ali, Ministry of Health.
- Hussein Qassim, Ministry of Health.
- Israa Tariq, Ministry of Health.
- Israa Helmi, Ministry of Health.
- Ibraheem Sharhan, Border Ports Authority.
- Jawad Abdul-wahid, Ministry of Health.
- Jawad Shakir, Ministry of Health.
- Karim Abdul Khadum, Ministry of Higher Education.
- Khalil Latif, Ministry of Agriculture.
- Khalid Hamoud, Ministry of Health.
- Khaldon Abdul-Kareem, Ministry of Health.
- Kareem Mohammed, Ministry of Health.
- Mohammed Hasim, Ministry of Health.
- Majida Badir, Ministry of Agriculture.
- Mayada Jawad, Ministry of Agriculture.
- Majida Mahmoud, Ministry of Science and Technology.
- Majida Mahmoud Fathi, Ministry of Health.
- Mahir Jawad, Ministry of Health.
- Mohammed Hadi, Ministry of Health.
- Mohammed Sabah, Ministry of Health.
- Mahdi Hassan, Ministry of Health.
- Maysoon Rabea'a, Ministry of Health.
- Mays Falah, Ministry of Health.
- Mohammed Ghafil, Ministry of Health.
- Mahir Rashed, Ministry of Health.
- Mahmoud Jawad, Ministry of Health.

- Mohammed Jabur, Ministry of Health.
- Nadia Aboud, Ministry of Planning.
- Nazik Lahmoud, Ministry of Health.
- Noujough Khadum, Ministry of Health.
- Nidhal Adnan, Ministry of Health.
- Nawrouz othman, Ministry of Health.
- Ouf Abdulrahman, Ministry of Health.
- Qais Abdul Rahman, Ministry of Agriculture.
- Qassim Abid, Ministry of Health.
- Rawya Mahmoud, Ministry of Commerce.
- Rana Abdul Mahdi, Ministry of Health.
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- Rana Fakhri, Ministry of Health.
- Safaa aldin Abdul rahman, Ministry of Health.
- Salma Abdul fattah, Ministry of Health.
- Shakir Ferayh, Ministry of Agriculture.
- Sajida ahmed, Ministry of Health.
- Saad-din Hussein, Ministry of Health.
- Samir Abdul-sattar, Ministry of Health.
- Saif Al-badir, Ministry of Health.
- Suha Younes, Ministry of Health.
- Saifdin Mohidin, Ministry of Health.
- Serwan Mohammed, Ministry of Health.
- Sundus Abid, Ministry of Health.
- Sa'aed Abdul Ridha, Ministry of Health.
- Wahab Maki, Ministry of Agriculture.
- Yousra Hafidh, Ministry of Health.
- Yasir Adnan, Ministry of Commerce.
- Zainab Abdulhusein, Ministry of Health.

Supporting documentation provided by host country

National legislation, policy and financing

- Iraq Constitution (2005).
- Public Health Law No 89 (1981).
- Chemical Carcinogens Regulation number 2 (1984).
- Chemical Safety Regulation Number 4 (1989).
- Animal Health Law No. 32 (2013).
- Emergency Use Law (1961).

- Civil Defense Law (1978).
- Social Care Law (1980).
- Draft Disaster Risk Reduction Law (2013).
- Iraqi Law on Prevention of Ionizing Radiation, No. 99 (1980).
- Financial Management Law (2004).
- Province Law (2008).
- Environment Protection Act (2009).
- UNDP, Iraq: Country Case Study Report, How Law and Regulation Supports Disaster Risk Response. June 2014, Page 16 (See https://www.undp.org/content/dam/undp/library/crisis%20prevention/UNDP+CPR_DRRLaw_Iraq.pdf accessed 15 March 2019).

IHR coordination, communication and advocacy

- Representation and ToRs of the IHR Multisectoral Committee.
- National action plan for implementation of IHR.

Antimicrobial resistance

N/A

Zoonotic diseases

- List of the agreed priority zoonotic disease.
- Surveillance plan for the zoonotic disease from the CDC/zoonosis section.
- Zoonotic disease surveillance forms.

Food safety

- Food System No. 29 of 1982 amended.
- Health Control Guide.
- MOH/WHO draft recommendations.

Biosafety and biosecurity

- Action plan BRM 2018–2018 (31 October 2019).
- CPHL policy and action plan 2018–2019.
- Laboratory reports 2018.

Immunization

- Country Health Profile 2018.
- Power point presentation by the National EPI Manager.
- 2018 National EPI action plan program SOPs.
- WHO Vaccine Preventable Diseases Monitoring System, 2018 global summary.
- WHO EMRO Measles & Rubella Monthly Bulletin (Week 52, 2018).
- WHO EMRO Polio Fax Bulletin No 1065 for week 09 2019.
- Iraq vaccine supply chain: an Inventory and Gap Analysis, MoH Iraq, UNICEF and EMPHNET, Feb 2018

National laboratory system.

- Presentation and documentation of the JEE self-assessment.
- LQMS Action plan for CPHL (2018–2019).
- Mission report Dr Sulaiman Al Busaidi, WHO consultant; Assessment mission to Central Public Health Laboratory (CPHL), 9–13 July 2017, Baghdad, Iraq.

Surveillance

- List of notifiable diseases.
- Communicable disease notification form.
- Weekly communicable disease report.

Reporting

- Designation and Terms of Reference of the IHR National Focal Point.
- Designation and Terms of reference of the OIE Focal Point.
- Public Health Law.
- Action plan for implementation of IHR 2005 in Iraq.

Human Resources

- Sample of field epidemiology training curriculum used in the country.
- Public health workforce/human resource plan/strategy 2018–2022.
- Data from human resource information systems.
- Lists of in-service training available in the country.
- Lists of national training institutes/professional bodies/schools of public health/nursing/midwifery/veterinary/medical colleges/universities that provide in-service training courses.
- Number of graduates/trainees per year.

Emergency Preparedness

- Health support plan for mass gathering.
- Preparedness plan for earthquakes.
- Preparedness plan for religious events.
- Preparedness plan for elections.
- Preparedness plan for Eid.
- Preparedness Plan for civil disobedience.
- Operational plan of the national committee for crisis and disaster management of the Ministry of Health.
- Coordination plan with agencies and NGOs.
- Plans for medical services.
- National plan for response to radio-nuclear and radiation emergency.

Emergency Response

N/A

Linking public health and security authorities

N/A

Medical countermeasures and personnel deployment

N/A

Risk Communication

- Samples of press releases and media communications.
- Evaluation of health communication initiatives.
- Concept note risk communication.
- Terms of references for media and health awareness department.
- Terms of references for health awareness unit.
- List of official decrees and nominations related to public communications and health promotion.
- Copies of disease specific national action plans: cholera, influenza, haemorrhagic fever.
- Samples of information education communication materials.

Points of entry

- Advisory Body resolutions 138, 202 and 204.
- Public Health Act No. 89 of 1981.
- Instructions No. 2 of 2001 for the withdrawal of samples for laboratory tests.
- Food system No. 29 of 1982.
- Standard Specification (1847) second update/validity of food items.
- Health Control Guide 2012.
- Medical support plan for flood preparedness and response.
- Plan for the treatment of water scarcity.
- Follow-up and centralized supervision of health monitoring divisions and food control centres at border crossings for imported models.
- Codex Alimentarius Commission.
- Annual report of the Ministry of Health.

Chemical events

- Strategy of environment of Iraq (2013–2017) that includes a chemical management section.
- Regulation no. 4 year 1989 safety in storage and uses chemical.
- Section 6 environmental law 27 at 2009 (chemical management and dangerous wastes).
- Injury Surveillance Reports, 2012–2105.

Radiation:

- National Strategy and plan of action for responding to radio-nuclear events (in Arabic).
- Annual reports about radiation hazards in Iraq (Confidential).



JOINT EXTERNAL EVALUATION
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REPUBLIC OF IRAQ

Mission report:
12-17 March 2019