GHSA Standardized Milestone Library

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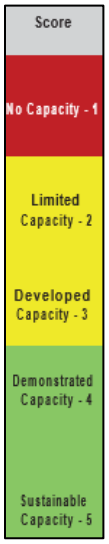
Standardized GHSA Milestones

Introduction

The Joint External Evaluation (JEE) Tool was developed to measure progress toward attaining 19 technical areas, including the 11 GHSA Action Package targets as well as the remaining IHR Core Capacities. The JEE tool divides each technical area into a set of indicators with capacity scores ranging from 1-5. There are, however, are no milestones to help guide planning efforts move from one capacity level to the next.

The U.S. interagency developed this GHSA Standardized Milestone Library to provide technical guidance on how to move to a higher capacity level in the indicators from the JEE Tool. These Standardized Milestones, which will assist with the development of GHSA roadmaps aimed at moving to higher capacity levels are organized according to the 11 GHSA Action Packages (Standardized Milestones for the technical areas outside the 11 GHSA Action Package targets have not yet been developed). The levels of capacity for each JEE indicator are outlined within each table. Between each level of capacity are a number of Standardized Milestones that should be reached in order to move to the next level. By planning activities around the milestones that correspond to each color capacity level (i.e., red, yellow, green), countries are able to progress through JEE capability levels for the 11 GHSA technical lanes.

Milestone Library



Incorporation of these standardized milestones by the countries into their GHSA planning documents (1) offers countries intermediate steps to work towards as they develop activities to move from one JEE capability level to the next, and (2) helps provide standardized language across different countries' GHSA planning documents that aligns directly to the JEE.

- The standardized milestones are organized by Action Package, and can be copied and pasted into the roadmap template.
- These are only recommended milestones, and there is no requirement to use these milestones.
- Milestones in the library can be modified and adapted to make them more country-specific or alternative milestones can be developed.
- The standardized milestones are grouped below each JEE indicator. By selecting milestones corresponding to the current capacity level, countries can identify strategies to progress through JEE capability levels.
- Milestones should be chosen based on the country's current capacity, so a country may not need to include every milestone within a color-coded capacity level in its Roadmap.
- Be aware of comments embedded in the milestones. Comments include information about how the milestones map back to the JEE.

DRAFT 6/13/2016

Prevent 1: Antimicrobial Resistance- Decisive and comprehensive action to enhance infection prevention and control activities to prevent the emergence and spread of AMR, especially among drug-resistant bacteria Nations will strengthen surveillance and laboratory capacity, ensure uninterrupted access to essential antibiotics of assured quality, regulate and promote the rational use of antibiotics in human medicine and in animal husbandry and other fields as appropriate, and support existing initiatives to foster innovations in science and technology for the development of new antimicrobial agents

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

Indicators - Antimicrobial Resistance (AMR)

P.3.1 Antimicrobial resistance (AMR) detection	**P.3.2 Surveillance of infections caused by AMR pathogens**	**P.3.3 Healthcare associated infection (HCAI) prevention and control programs**	**P.3.4 Antimicrobial stewardship activities**
Levels of Capacity	**Levels of Capacity**	**Levels of Capacity**	**Levels of Capacity**
No national plan for detection and reporting of priority AMR pathogens has been approved	**No national plan for surveillance of infections caused by priority AMR pathogens has been approved**	**No national plan for HCAI programs has been approved**	**No national plan for antimicrobial stewardship has been approved**
No Capacity- 1			
National AMR advisory committee is established that has clear Terms of Reference (ToR), that meets regularly, and that includes a One Health approach to advise or draft a national plan. The plan includes key components of laboratory, surveillance, HCAI, and stewardship activities.	National AMR advisory committee is established that has clear Terms of Reference (ToR), that meets regularly, and that includes a One Health approach to advise or draft a national plan. The plan includes key components of laboratory, surveillance, HCAI, and stewardship activities.	National AMR advisory committee is established that has clear Terms of Reference (ToR), that meets regularly, and that includes a One Health approach to advise or draft a national plan. The plan includes key components of laboratory, surveillance, HCAI, and stewardship activities.	National AMR advisory committee is established that has clear Terms of Reference (ToR), that meets regularly, and that includes a One Health approach to advise or draft a national plan. The plan includes key components of laboratory, surveillance, HCAI, and stewardship activities.

AMR and drug-resistant TB-related documents that can be used to write a complete National Strategic Plan to address AMR are reviewed and assessed.	AMR and drug-resistant TB-related documents that can be used to write a complete National Strategic Plan to address AMR are reviewed and assessed.	AMR and drug-resistant TB-related documents that can be used to write a complete National Strategic Plan to address AMR are reviewed and assessed.	AMR and drug-resistant TB-related documents that can be used to write a complete National Strategic Plan to address AMR are reviewed and assessed.
A Ministry of Health lead for AMR is identified with a clear ToR. The lead coordinates activities with POC's for Ministry of Agriculture and Ministry of Health Infection Prevention and Control (IPC) and stewardship.	A Ministry of Health lead for AMR is identified with a clear ToR. The lead coordinates activities with POC's for Ministry of Agriculture and Ministry of Health Infection Prevention and Control (IPC) and stewardship.	A Ministry of Health lead for AMR is identified with a clear ToR. The lead coordinates activities with POC's for Ministry of Agriculture and Ministry of Health Infection Prevention and Control (IPC) and stewardship.	A Ministry of Health lead for AMR is identified with a clear ToR. The lead coordinates activities with POC's for Ministry of Agriculture and Ministry of Health Infection Prevention and Control (IPC) and stewardship.
An assessment of existing AMR and drug-resistant TB laboratory capacity is completed.	An assessment of existing AMR and drug-resistant TB surveillance and reporting at human health and agricultural facilities is completed.	An assessment of national infection prevention and control (IPC) programs, policies, practices, and supply chain is completed.	An assessment of national AMR stewardship policies, including regulatory framework and authority, using a One Health approach is completed.
A national AMR action plan is drafted and under final approval from the Ministries of Health and Agriculture. The plan incorporates guidance from the advisory committee and other appropriate stakeholders and data from assessments. The Plan includes key components of laboratory, surveillance, HCAI, and stewardship activities.	A national AMR action plan is drafted and under final approval from the Ministries of Health and Agriculture. The plan incorporates guidance from the advisory committee and other appropriate stakeholders and data from assessments. The Plan includes key components of laboratory, surveillance, HCAI, and stewardship activities.	A national AMR action plan is drafted and under final approval from the Ministries of Health and Agriculture. The plan incorporates guidance from the advisory committee and other appropriate stakeholders and data from assessments. The Plan includes key components of laboratory, surveillance, HCAI, and stewardship activities.	A national AMR action plan is drafted and under final approval from the Ministries of Health and Agriculture. The plan incorporates guidance from the advisory committee and other appropriate stakeholders and data from assessments. The Plan includes key components of laboratory, surveillance, HCAI, and stewardship activities.

The national plan is distributed to key stakeholders.	The national plan is distributed to key stakeholders.	The national plan is distributed to key stakeholders.	The national plan is distributed to key stakeholders.
National plan for detection and reporting of priority AMR pathogens has been approved	**National plan for surveillance of infections caused by priority AMR pathogens has been approved**	**National plan for HCAI programs has been approved**	**National plan for antimicrobial stewardship has been approved**
Limited Capacity- 2			
SOPs, protocols, and databases for surveillance data, a system for reporting to Ministries of Health and Agriculture, and a mechanism to analyze data and report back to facilities and to WHO are all established.	SOPs, protocols, and databases for surveillance data, a system for reporting to Ministries of Health and Agriculture, and a mechanism to analyze data and report back to facilities and to WHO are all established.	National IPC technical guidelines are established.	SOPs, protocols, and databases for monitoring antimicrobial use in humans and animals are established.
AST testing is performed at pilot facilities for country selected WHO priority pathogens.	AMR surveillance is initiated at pilot or representative regional and referral hospitals.	HCAI programs, including AMR prevention and airborne infection control, are implemented at designated facilities.	Antimicrobial stewardship programs are implemented, including monitoring of antimicrobial use, education/ communication, and other interventions to improve antibiotic use, at designated centers.
One Health AMR training and mentorship programs are established for national and county laboratories.	Training programs for data collection and reporting of AMR at national and regional levels are developed and initiated.	IPC training programs, including AMR prevention programs, are developed at designated facilities.	
Internal and external QA programs are established for designated laboratories.			

Designated laboratories are conducting detection and reporting of some priority AMR pathogens	**Designated sentinel sites are conducting surveillance of infections caused by some priority AMR pathogens**	**Designated facilities are conducting some HCAI programs**	**Designated centers are conducting some antimicrobial stewardship practices**
Developed Capacity- 3			
Internal and external quality assurance testing is performed and results are reported to stakeholders.	AMR and drug-resistant TB surveillance systems are evaluated, results are disseminated, and an action plan for improvements is developed.	Monitoring and evaluation of HCAI prevention programs are conducted.	Monitoring and evaluation of stewardship programs are conducted.
Steps are developed to strengthen lab capacity to sustainably identify and perform AMR and drug-resistant TB testing.	Improvements for AMR and drug-resistant TB surveillance system are implemented as outlined by the surveillance evaluation. Monitoring of antibiotic-resistance patterns, as well antibiotic usage and management practices, is enhanced at multiple points in the production chain for food animals and retail meats.	Improvements to HCAI prevention programs are implemented.	Information, education, and communication materials on drug resistance and drug use are developed and disseminated across both human and animal sectors. These include the use of evidence generated from AMR surveillance to inform antibiotic-use practices.
Designated laboratories have conducted detection and reporting of all priority AMR pathogens for at least one year	**Designated sentinel sites have conducted surveillance of infections caused by all priority AMR pathogens for at least one year**	**Designated facilities have conducted all HCAI programs for at least one year**	**Designated centers have conducted all antimicrobial stewardship practices for at least one year**
Demonstrated Capacity- 4			
A sustainable plan for the laboratory supply chain is developed and implemented.	Sustainable support for AMR and drug-resistant TB surveillance infrastructure is developed and maintained.	A sustainable plan for IPC supply chain is implemented.	A national regulatory framework for antimicrobial use is implemented.
AST testing is expanded to other clinical facilities.	AST testing is expanded to other clinical facilities.	HCAI prevention programs are expanded to other clinical facilities.	Antimicrobial stewardship activities are expanded to other centers.

Population-based denominators, such as those recommended by WHO GLASS are collected.	Population-based denominators, such as those recommended by WHO GLASS are collected.	HCAI prevention programs are incorporated into national regulatory framework, such as accreditation bodies.	
Infection-based case data are collected, including enhanced patient clinical information.	Infection-based case data are collected, including enhanced patient clinical information.		Strategies for monitoring adherence to stewardship practices and regulations are developed and implemented.
Strategies for monitoring national AMR and drug-resistant TB burden are developed and implemented.	Strategies for monitoring national AMR and drug-resistant TB burden are developed and implemented.	Strategies for monitoring national HCAI burden are developed and implemented.	
Designated laboratories have conducted detection and reporting of all priority AMR pathogens for five years with a system for continuous improvement	**Designated sentinel sites have conducted surveillance of infections caused by all priority AMR pathogens for five years with a system for continuous improvement**	**Designated facilities have conducted all HCAI programs for five years with a system for continuous improvement**	**Designated centers have conducted all antimicrobial stewardship practices for five years with a system for continuous improvement**
Sustainable Capacity- 5			
A sustainable plan for the laboratory supply chain is developed and implemented.	AMR surveillance is expanded to include other clinical sites and/or other areas of the healthcare system.	IPC Programs that include QI training/methodology at designated facilities are established and operationalized.	Antimicrobial stewardship adherence is monitored and regulated.
References			
Joint External Evaluation (JEE) tool, IHR (2005), International Health Regulations- What Gets Measured Gets Done (Ijaz, et al, CDC), National Action Plan for Combating Antibiotic-Resistant Bacteria			

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Prevent 2: Zoonotic Disease- Implementation of guidance and models on behaviors, policies and practices to minimize the spillover, spread, and full emergence of zoonotic disease into or out of human populations prior to the development of efficient human-to-human transmission. Nations will develop and implement operational frameworks- based on international standards, guidelines, and successful existing models- that specify the actions necessary to promote One Health approaches to policies, practices and behaviors that could minimize the risk of zoonotic disease emergence and spread.

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

Indicators - Zoonotic Disease

P.4.1 Surveillance systems in place for priority zoonotic diseases/pathogens	**P.4.2 Veterinary or Animal Health Workforce**	**P.4.3 Mechanisms for responding to infectious zoonoses and potential zoonoses are established and functional**
Levels of Capacity	**Levels of Capacity**	**Levels of Capacity**
No zoonotic surveillance systems exist	**Country has no animal health workforce capacity capable of conducting one health activities.**	**No mechanism in place**
No Capacity- 1		
National priority zoonotic diseases, conditions, events, and multi sectoral coordination mechanisms for zoonotic disease prevention is identified with MoH, MoA, wild-life specialists and other key stakeholders.	An assessment of country's current capacity of veterinarians, laboratory scientists, livestock, and other relevant professionals is completed.	A plan, timeline, and materials are developed for familiarizing policy makers at national and subnational levels regarding benefits of One Health approach.
Focal point(s) responsible for animal health coordination within the MoH and IHR National Focal Point are identified.	Curriculum for One-Health education is created in partnership with universities and partners.	Plans for systematic and timely collection and collation of zoonotic disease data are developed for laboratory and surveillance sources.
A plan for targeted surveillance for prioritized zoonotic diseases among human and livestock at household levels is developed to explore viable prevention strategies in selected jurisdictions.	Animal health workforce continuing education is assessed and planned.	An introductory workshop on the One Health System Mapping and Analysis Resource Tool is conducted for national stakeholders.

A plan for targeted surveillance for prioritized diseases in regions with representative agricultural systems is developed.		An assessment of existing zoonotic disease prevention and control guidelines is complete and control measures are implemented by increasing community awareness and animal vaccination.
A plan for national surveillance on reportable and potential epidemic diseases of zoonotic nature at veterinary and public health facilities is developed, built from targeted zoonotic disease surveillance in humans and animals in selected jurisdictions.	Training workshops for One Health workforce are developed with multiple government sectors and other stakeholders.	Collaborations with WHO, FAO, OIE, and other international stakeholders are developed focused on the development of a One Health approach.
Zoonotic One health threat risk-mapping is performed.		Plans to strengthen National One Health policy and practices are developed.
Plans to share reports and surveillance activities between public health and animal health laboratories are developed.		
Food safety surveillance plans are developed with laboratories and agriculture sectors.		Response plans are developed for detecting and responding to foodborne diseases and food contamination.
Country has determined zoonotic diseases of greatest national public health concern but does not have animal zoonotic surveillance systems in place	**Country has animal health workforce capacity within the national public health system.**	**National policy, strategy or plan for the response to zoonotic events is in place**
Limited Capacity- 2		
Points of contact are designated for surveillance reporting procedures for confirming priority zoonotic diseases and conditions at target facilities.	Technical guidance, SOPs, protocols, and tool-kits for zoonotic outbreak control are adapted and provided to health and veterinary staff.	OIE PVS assessments and tools are integrated into national strategies and plans.

Procedures are improved for reporting priority zoonotic diseases of PHEIC to the IHR Focal Point and to the district and national levels.		Methods for determining estimates of animal (agriculture and reservoir) populations within the country are developed.
		Programs are developed to educate the community (broad, agricultural, remote, marginalized communities) to prevent zoonotic spill-overs.
Functional mechanisms for inter-sectoral collaborations are established that include animal and human health surveillance units and laboratories.	Training programs are developed for human and veterinary personnel for procedures and tools to analyze data by time, place and person/animal.	Validation and information products are developed to conduct risk assessments that may pose a potential PHEIC.
	Training for One Health concepts within national zoonotic diseases prevention and control training programs are developed for relevant stakeholders.	
	Laboratory training workshops for staff at the national level and in selected regions are conducted for the diagnosis of the prioritized zoonotic diseases.	Monitoring and evaluation assessments are conducted of zoonotic surveillance and response systems.
Training curriculum, SOPs, tool-kits, best-practices, and procedures are adapted for routine feedback on zoonotic data quality and completeness.	Animal control officer workforce capacity is built in target areas by provision of the necessary equipment and training on animal capture, euthanasia, and appropriate sample collection.	Appropriate control and prevention measures are implemented for selected zoonotic diseases in selected regions.
Timely and systematic information exchange is established between animal surveillance units, human health surveillance units and other relevant sectors regarding potential zoonotic risks and urgent zoonotic events.	Relevant workforce is trained in IHR competency and One Health approach.	
	FETP staff are trained to manage ongoing surveillance capacity.	High-risk human/animal interfaces are mapped and assessed.
Laboratories are stocked with zoonotic diagnostic equipment and supplies for detection of priority zoonotic diseases.		
Zoonotic surveillance systems in place for 1-4 zoonotic diseases/ pathogens of greatest public health concern	**Animal health workforce capacity within the national public health system and less than half of sub-national levels.**	**A mechanism for coordinated response to outbreaks of zoonotic diseases by human, animal and wildlife sectors is established**

Developed Capacity- 3		
A national, multi-sectoral zoonotic surveillance strategic plan is developed to enhance timely detection and reporting of zoonotic outbreaks. The plan has final approval from Ministries of Health and Agriculture.	Training workshops for relevant career tracks are developed.	Linkages among designated reporting facilities, decision-making sectors, and communities are enhanced to strengthen diseases surveillance capacity.
Protocols adhere to biosafety/biosecurity measures for select zoonotic agents.		
Laboratory training workshops for staff for diagnosing and reporting priority zoonotic diseases are developed for use at the national level and in selected regions.		Procedures and plans are developed to investigate and confirm suspected zoonotic outbreaks and other One Health events.
Procedures for data analysis to improve One Health action are developed for use at the district and national levels.		
Serologic and molecular diagnostic capacity is developed for prioritized zoonotic diseases in animals and humans at the sub-national and national level.		A preparedness and response plan is in place to coordinate animal and health agencies, sectors, and other stakeholders to effectively respond to priority zoonotic outbreaks.
Serological diagnostics capacity is piloted for at least one of the prioritized zoonotic diseases for humans and livestock in target regional laboratories.	FETP trainee recruitment is maintained for the animal health workforce.	Technical response guidelines are established for district rapid response teams to respond to zoonotic outbreaks.
A national surveillance database to record, monitor, and report zoonotic outbreaks to stakeholders is established.		Training exercises are developed to test capacity of emergency deployment capacities to detect and respond to zoonotic diseases.

Zoonotic surveillance systems in place for five or more zoonotic diseases/ pathogens of greatest public health concern	**Animal health workforce capacity within the national public health system and more than half of sub-national levels.**	**Timely4 and systematic information exchange between animal/wildlife surveillance units, human health surveillance units and other relevant sectors in response to potential zoonotic risks and urgent zoonotic events**
Demonstrated Capacity- 4		
Procedures are in place to investigate and confirm suspected zoonotic outbreaks and other public health events.	A joint MoH and MoA plan to strengthen animal health workforce programs is in place.	National plans for surveillance of pathogens of concern have been evaluated.
Plans to improve animal and human exposure surveillance, testing capacities, and appropriate risk assessments are developed.		
Linkages between animal-human disease surveillance and reporting mechanisms is enhanced in a subset of regions.		Plans for sustainable functioning of One Health capacity are developed.
Zoonotic surveillance is expanded to include additional sites.		
Zoonotic surveillance systems in place for five or more zoonotic diseases/ pathogens of greatest public health concern with system in place for continuous improvement	**Animal health workforce capacity within the national public health system and at all sub-national levels. This includes a plan for animal health workforce continuing education**	**Timely (as defined by national standards) response to more than 80% of zoonotic events of potential national and international public health concern**
Sustainable Capacity- 5		
A monitoring and evaluation assessment of diagnostics and surveillance report submissions is completed from core human and animal health facilities to district and national levels.	A database of trainees and SMEs is developed.	A monitoring and evaluation assessment of One Health action in response to zoonotic outbreaks is complete.
Measurable success criteria to document progress of zoonotic surveillance are defined.	Train-the-Trainers workshops for the One Health System Mapping and Analysis Resource Tool are complete.	
Partnerships with Ministries of Health and Agriculture, FAO, OIE and other	Training workshops for relevant career tracks are developed.	Collaborations with WHO, OIE, and other international stakeholders, focused on the development of

stakeholders are established to combat zoonotic spill-overs and outbreaks.		integrated laboratory-based surveillance capacity, have been encouraged.
A preparedness and response plan is in place to coordinate animal and health agencies, sectors, and other stakeholders to effectively respond to priority zoonotic outbreaks.		
References		
Joint External Evaluation (JEE) tool, Laboratory Information Management System Strategic Implementation Plan, 2011		

DRAFT 6/13/2016	
Prevent 3: Biosafety and Biosecurity- Implementation of a comprehensive, sustainable and legally embedded National oversight program for biosafety and biosecurity, including the safe and secure use, storage, disposal, and containment of pathogens found in laboratories and a minimal number of holdings across the country, including research, diagnostic and biotechnology facilities. A cadre of biological risk management experts possesses the skillset to train others within their respective institutions. Strengthened, sustainable biological risk management best practices are in place using common educational materials. Rapid and culture-free diagnostics are promoted as a facet of biological risk management. The transport of infectious substances will also be taken into account.	
Target: A whole-of-government national biosafety and biosecurity system is in place, ensuring that especially dangerous pathogens are identified, held, secured and monitored in a minimal number of facilities according to best practices; biological risk management training and educational outreach are conducted to promote a shared culture of responsibility, reduce dual use risks, mitigate biological proliferation and deliberate use threats, and ensure safe transfer of biological agents; and country- specific biosafety and biosecurity legislation, laboratory licensing, and pathogen control measures are in place as appropriate.	
Indicators - Biosafety and Biosecurity	
P.6.1 Whole-of-government biosafety and biosecurity system is in place for human, animal, and agriculture facilities	**P.6.2 Biosafety and biosecurity training and practices**
Levels of Capacity	**Levels of Capacity**
No elements of a comprehensive national biosafety and biosecurity system are in place	**No biological biosafety and biosecurity training or plans are in place**
No Capacity- 1	
Laboratory Safety and Security Professionals are identified in the Ministries of Health, Agriculture and Defense responsible for inspection/certification of laboratories for compliance with biosecurity and biosafety requirements.	An engagement meeting has taken place to develop biosafety and biosecurity training programs aligned with international best practices.
Human and animal health facilities storing/maintaining especially dangerous pathogens and toxins are identified.	An engagement meeting has taken place for development of sustained training curriculum at academic institutions.
National legislation, regulations, and licenses for biosafety, biosecurity and bio risk management (BRM) are identified and reviewed for alignment with internationally accepted practices.	
An engagement meeting has taken place with Ministries of Health, Agriculture and Defense, and other appropriate government entities and stakeholders to determine laboratory capacities and gaps, and develop next steps aimed at strengthening BS&S compliance with internationally recognized standards.	

Assessments are conducted of current biosafety and biosecurity practices, procedures, and engineering controls and dual use research at human and animal health institutes.	
Some, but not all, elements of a comprehensive biosafety and biosecurity system are in place; country is: Starting the process to monitor and develop an updated record and inventory of pathogens within facilities that store or process dangerous pathogens and toxins and what they house. Developing, but has not finalized, comprehensive national biosafety and biosecurity legislation. Developing laboratory licensing. Developing pathogen control measures, including standards for physical containment and operational handling and failure reporting systems. Not consolidating dangerous pathogens and toxins into a minimum number of facilities. Not employing diagnostics that preclude culturing dangerous pathogens. Not implementing oversight monitoring and enforcement mechanisms.	**Country has conducted a training needs assessment and identified gaps in biosafety and biosecurity training but has not yet implemented comprehensive training or a common training curriculum. General lack of awareness among the laboratory workforce of international biosafety and biosecurity best practices for safe, secure and responsible conduct. Country does not yet have sustained academic training in institutions that train those who maintain or work with dangerous pathogens and toxins.**
Limited Capacity- 2	
Comprehensive national legislation for biosafety and biosecurity is developed by MoH (or other appropriate authority) in consultation with other stakeholders, and is at least in draft form.	Training and oversight are established for personnel reliability programs and ensuring compliance to Biosafety and Biosecurity rules and regulations.
Recordkeeping that ensures information security for all sensitive documentation is initiated in facilities where especially dangerous pathogens and toxins are stored.	
A biosafety and biosecurity national framework to improve security and consolidation of dangerous pathogens and toxins at a minimum number of facilities is drafted by MoH (or other appropriate authority) in consultation with other stakeholders.	
National biosafety and biosecurity regulations, guidelines and licenses with Ministries of Health, Agriculture and Defense, other appropriate government entities, and stakeholders are aligned with standardized classification and accreditation standards that cover pathogen control and personnel reliability program requirements.	Training curriculum, SOPs, tool-kits, best-practices, and procedures are adapted for compliance with biosafety and biosecurity rules and regulations aligned with international best practices.
Laboratories are modified to align with biosafety and biosecurity best practices and comply with oversight and enforcement mechanisms outlined in the national legislation and guidelines.	Continuing education and training programs aligned with international best practices are developed for biosafety and biosecurity.

Adequate physical security measures, in accordance with international best practices, are in place.	
Procedures and guidelines to consolidate especially dangerous pathogens and toxins into a minimal number of facilities are developed by MoH (or other appropriate authority) in consultation with other stakeholders and are in draft form.	
Comprehensive national biosafety and biosecurity system is being developed; country is: Finalizing the process to support the active monitoring and maintaining of up-to-date records and pathogen inventories within facilities that store or process dangerous pathogens and toxins; finalizing the development and implementation of comprehensive national biosafety and biosecurity legislation; finalizing the development and implementation of pathogen control measures, including standards for physical containment and operational handling , and containment failure reporting systems; starting the consolidation of dangerous pathogens and toxins into a minimum number of facilities.	**Country has a training program in place with common curriculum; has begun implementation: Country has a training program in place at most facilities housing or working with dangerous pathogens and toxins; Country is developing sustained academic training for those who maintain or work with dangerous pathogens and toxins. Country is developing, or has not yet implemented, a train-the-trainers program for biosafety. Country is developing sustained academic training for those who maintain or work with dangerous pathogens and toxins.**
Developed Capacity- 3	
Site-specific bio risk management programs and supporting documents are developed that include biosafety, biosecurity, incident response and emergency plans (e.g. in case of explosion, fire, flood, worker exposure, accident or illness, major spillage and waste management).	Training programs and oversight are implemented that ensure personal reliability and compliance to Biosafety and Biosecurity rules and regulations aligned with international best practices.
A biosafety and biosecurity framework to monitor pathogen control measures, including consolidation or destruction of pathogens and physical containment, is present, in use, and operated properly, so that the minimum number of pathogens are stored within a minimum number of facilities.	
A system for incident reporting is developed that includes identifying incidents, reporting according to regulations, and addressing action items that improve safety and security.	
Procedures are developed for biosecurity oversight for handling of pathogen/biological materials.	Sustained academic training is implemented in institutions that train those who maintain or work with especially dangerous pathogens and toxins aligned with international best practices.
Documents for dual use research and responsible code of conduct for scientists and staff are developed.	

Procedures for pathogen processing and storage are developed.	
Outside, unbiased monitoring and oversight of biosafety and biosecurity practices are established.	
Biosafety and biosecurity system is developed, but not sustainable; country is: Actively monitoring and maintaining an updated record and inventory of pathogens within facilities that store or process dangerous pathogens and toxins; Implementing enacted comprehensive national biosafety and biosecurity legislation; Implementing laboratory licensing; Implementing pathogen control measures, including standards for physical containment and operational handling and containment failure reporting systems; Completed consolidating dangerous pathogens and toxins into a minimum number of facilities; Employing diagnostics that preclude culturing dangerous pathogens Implementing oversight monitoring and enforcement activities	**Country has a training program in place with common curriculum and a train-the-trainers program: Country has a training program in place at all facilities housing or working with dangerous pathogens and toxins; Training on biosafety and biosecurity has been provided to staff at all facilities that maintain or work with dangerous pathogens and toxins; Country has limited ability to self-sustain all of the above.**
Demonstrated Capacity- 4	
Comprehensive national biosafety and biosecurity legislation is implemented in full.	Sustainable training curriculum in biosafety and biosecurity aligned with international best practices is implemented.
Diagnostics that can eliminate the need for culturing especially dangerous pathogens are implemented.	Sustainable train-the-trainer programs for biosafety and biosecurity aligned with international best practices are implemented.
Equipment operation and maintenance plans are developed and implemented at laboratories storing pathogens of security concern.	
Biosafety and biosecurity compliance for pathogen storage, processing, and transfer is monitored and evaluated.	
Especially dangerous pathogens are identified, and either destroyed, or held, secured, and monitored in a minimal number of facilities.	

Sustainable biosafety and biosecurity system is in place; country is: Compliant with numbers one through six under "Demonstrated Capacity" plus: Ministries have made available adequate funding and political support for the comprehensive national biosafety and biosecurity system, including maintenance of facilities and equipment	**Country has a sustainable training program, train-the-trainers program, and common curriculum. Staff are tested at least annually and exercises are conducted on biological risk protocols: Country is compliant with numbers one through five under "Demonstrated Capacity" and has funding and capacity to sustain all of the above. Review of training needs assessment is conducted annually and refresher training on need areas conducted annually Training on emergency response procedures provided annually**
Sustainable Capacity- 5	
National standard of specimen collection, handling, preservation, protection, transportation, disposal, packaging and import/export procedures are improved.	Adequate availability of funding mechanisms are in place to support training programs from the national government.
National plans for biosafety and biosecurity functioning and compliance are strengthened.	
Sustainable funding and an oversight and enforcement mechanism is in place to support biosafety and biosecurity programs/initiatives from the ministry level.	
References	
Joint External Evaluation (JEE) tool	

DRAFT 6/13/2016	
Prevent 4: Immunization- Effective protection through achievement and maintenance of immunization against measles and other epidemic-prone vaccine preventable diseases (VPDs). Measles immunization is emphasized because it is widely recognized as a proxy indicator for overall immunization against VPDs. Countries will also identify and target immunization to populations at risk of other epidemic-prone VPDs of national importance (e.g., cholera, Japanese encephalitis, meningococcal disease, typhoid, and yellow fever). In the case of some diseases that are transferable from cattle to humans, such as anthrax and rabies, animal immunization should also be taken into account.	
Target: A functioning national vaccine delivery system—with nationwide reach, effective distributions, access for marginalized populations, adequate cold chain, and ongoing quality control—that is able to respond to new disease threats.	
Indicators - Immunization	
P.7.1 Vaccine coverage (measles) as part of national program	**P.7.2 National vaccine access and delivery**
Levels of Capacity	**Levels of Capacity**
Less than 50% of the country's 12 month old population has received at least one dose of measles containing vaccine, as demonstrated by coverage surveys or administrative data; plan is in place to improve coverage, including supplemental immunization activities	**No plan is in place for nationwide vaccine delivery OR plans have been drafted to provide vaccines throughout the country to target populations but not implemented; inadequate vaccine procurement and forecasting lead to regular stock outs at the central and district level.**
No Capacity- 1	
An engagement meeting has been held with Ministries of Health and Agriculture and stakeholders to identify high-risk areas, behaviors and populations to control targeted VPDs.	A review of plans, policies and procedures for vaccine delivery systems to guide vaccine access and delivery of targeted VPDs is complete.
Vaccination coverage targets for measles and other epidemic-prone VPDs are identified for immunization plan implementation.	Reviews of cold-chain quality assurance and safety measures within vaccine storage and delivery systems to optimize supply chain management are completed.
Integration of WHO Global Action Plan eradication and elimination goals into the national immunization plan is complete.	Review of national laws and regulations for the procurement of vaccines from international sources during public health emergencies is complete.
Guidance and tools disseminated to expand routine immunizations focused on measles coverage of 1-year-olds.	Barriers are identified to procuring, receiving, storing and deploying vaccines to targeted populations.
A plan is developed, and steps outlined to target inequities and access to immunization systems within hard to reach districts.	National guidance documents are developed for vaccine stockpile and deployment. Final approval from Ministries of Health and Agriculture is complete.
An assessment of immunization surveillance, case management and reporting systems is complete.	Vaccine deployment and coverage strategies are developed within immunization systems with Ministries of Health and Agriculture and stakeholders.
A working group to develop a national vaccination registry is established and has met that includes Ministries of Health and Agriculture and stakeholders.	

50-69% of the country's 12 month old population has received at least one dose of measles containing vaccine, as demonstrated by coverage surveys or administrative data; plan is in place to reach 95% within the next 5 years to include supplemental immunization activities	**Implementation has begun to maintain cold chain for vaccine delivery, but is available in fewer than 40% of districts in country OR vaccine delivery (maintaining cold chain) is available to less than 40% of the target population in the country; inadequate vaccine procurement and forecasting lead to occasional stock outs at the central and district level**
Limited Capacity- 2	
A national plan to improve immunization programs for vaccine introduction into targeted populations is finalized and approved by Ministries of Health and Agriculture with steps to operationalize the plan.	National plan guidelines are developed for vaccine delivery into targeted populations with steps to operationalize the plan.
Immunization plan is disseminated to key stakeholders.	
Messaging tools to improve knowledge-based capacities (communication and education) are disseminated to health-care staff for community socialization.	
Immunization programs are developed with Ministries of Health and Agriculture and stakeholders to expand target areas for VPDs.	
Strategies to promote adherence to the life-course of vaccine dosages are integrated into the immunization program.	
Technical guidelines, SOPs, training materials, and tool-kits are disseminated to health-care workers for pre-service and post-service guidance.	Protocols, SOPs, technical guidelines and toolkits for storage, transportation and deployment of vaccines to health-care workers and staff are adapted.
Immunization training and mentorship programs for health-care personnel are developed and initiated.	
Guidelines and tools for safety and waste management measures are disseminated to health-care workers.	
A workshop is completed with health sectors and other stakeholders to develop new approaches to engage urban and peri-urban areas.	
A national vaccine registry is introduced in target jurisdictions.	

70-89% of the country's 12 month old population has received at least one dose of measles containing vaccine, as demonstrated by coverage surveys or administrative data; plan is in place to reach 90% within the next 3 years	**Vaccine delivery (maintaining cold chain) is available in 40-59% of districts within the country OR Vaccine delivery (maintaining cold chain) is available to 40-59% of the target population in the country; vaccine procurement and forecasting leads to no stock outs of vaccines at central level and occasional stock outs at district level**
Developed Capacity- 3	
Steps are developed to strengthen immunization programs to sustainably implement vaccine coverage of VPDs.	Steps are developed to strengthen vaccine deployment to sustainably implement vaccine coverage of VPDs.
Internal and external QA programs are developed for designated health facilities.	
National databases are established for laboratories to record, monitor and report to stakeholders.	A response document to observe appropriate authorizations, clearances, ethical norms, and permissions during vaccine delivery is developed.
Monitoring and evaluation are performed of health workers in immunization implementation activities.	
Successes are documented for strategies targeting community engagement for immunization adherence.	
90% of the country's 12-month-old population has received at least one dose of measles containing vaccine, as demonstrated by coverage surveys or administrative data. 80% of all sub-national (districts/provinces) units covered.	**Vaccine delivery (maintaining cold chain) is available in 60-79% of districts within the country OR Vaccine delivery (maintaining cold chain) is available in 60-79% of the target population in the country; functional vaccine procurement and forecasting lead to no stock outs at the central level and rare stock outs at the district level.**
Demonstrated Capacity- 4	
Collaborations are established with WHO, and other international stakeholders focused on development to invest in immunization programs.	Information, education, communication materials on vaccine delivery and cold-chain management are developed and disseminated.
Coordination is established with sectors and stakeholders to implement vaccination controls at PoE.	Steps are developed to strengthen cold-chain quality assurance and safety measures within vaccine storage and delivery systems.
Measurable success criteria are determined to document progress of immunization programs.	Trainings and exercises are developed for event or hazard-specific response and management plans with sectors, stakeholders, and other agencies.

95% of the country's 12-month-old population has received at least one dose of measles containing vaccine, as demonstrated by coverage surveys or administrative data; or 90% of the country's 12-month-old population has received at least one dose of measles containing vaccine and the trajectory of progress, plans and capacities are in place to achieve 95% coverage by 2020. **More than 80% of all sub-national (districts/provinces) units are covered.**	**Vaccine delivery (maintaining cold chain) is available in greater than 80% of districts within the country OR Vaccine delivery (maintaining cold chain) is available to more than 80% of the national target population; systems to reach marginalized populations using culturally appropriate practices are in place; vaccine delivery has been tested through a nationwide vaccine campaign or functional exercise; functional procurement and vaccine forecasting results in no stock-outs**
Sustainable Capacity- 5	
A sustainable plan for vaccine programs is developed and implemented.	A sustainable plan to ensure plan for vaccine delivery and cold-chain management is developed and implemented.
A national plan is strengthened for better integration of financial management for healthcare planning and immunization priorities.	A strategic framework to nationally prioritize resources and investments in immunization is developed.
References	
Joint External Evaluation (JEE) tool, WHO Global Vaccine Action Plan 2011-2020	

DRAFT 6/13/2016			
Detect 1: National Laboratory System- Effective use of a nationwide laboratory system capable of safely and accurately detecting and characterizing pathogens causing epidemic diseases, including both known and novel threats, from all parts of the country. Laboratory capacity should have the ability for expanded deployment, utilization, and sustainment of modern, safe, secure, affordable and appropriate diagnostic tests or devices.			
Target: Real-time bio surveillance with a national laboratory system and effective modern point-of-care and laboratory-based diagnostics.			
Indicators - National Laboratory System			
D.1.1 Laboratory testing for detection of priority diseases	**D.1.2 Specimen referral and transport system**	**D.1.3 Effective modern point of care and laboratory based diagnostics**	**D.1.4 Laboratory Quality System**
Levels of Capacity	**Levels of Capacity**	**Levels of Capacity**	**Levels of Capacity**
National laboratory system is not capable of conducting any core tests.	**No system is in place for transporting specimens from intermediate level/ districts to national laboratories, only ad hoc transporting**	**No evidence of use of rapid and accurate point of care and laboratory based diagnostics. No tier specific diagnostic testing strategies are documented**	**There are no national laboratory quality standards**
No Capacity- 1			
Engagement meeting with MoH, MoA, other stakeholders and partners to determine national laboratory priorities to be adopted and disseminated for priority diseases are conducted.	Plan is developed with Ministries of Health and Agriculture, and other stakeholders to strengthen national regulations for specimen referral mechanisms and linkages between various levels of health facilities, including international networks with guidance and tools available for dissemination.	Tier-specific diagnostic testing strategies defined for priority diseases to be adopted and disseminated into the subnational and national laboratory plans with MoH and other stakeholders.	Plan is developed with Ministries of Health and Agriculture, and other stakeholders to update policies for QMS for national and reference laboratories in alignment with international best practices.
Plans are completed to target human and animal health laboratories for capacity-building and essential functioning to meet diagnostic and confirmatory requirements for priority diseases.			
Plans are completed for proficiency in classical diagnostic techniques including bacteriology, serology and PCR to improve quality services in public health laboratories			Site-specific QMS is developed for designated laboratories and disseminate supporting documents to include biosafety, biosecurity, incident

compliant with national standards. Plans are completed to update diagnostic capabilities to detect new and emerging pathogens to be adopted into the national laboratory program. Engagement meeting between MoH, MoA and other stakeholders to review the national laboratory policy to update minimum standards and licensing and registration are conducted.			response and emergency plans (e.g. in case of explosion, fire, flood, worker exposure, accident or illness, major spillage).
National laboratory system is capable of conducting 1-2 core tests	**System is in place to transport specimens to national laboratories from less than 50% of intermediate level/districts in country for advanced diagnostics**	**Minimal, laboratory diagnostic capability exists within the country, but no tier specific diagnostic testing strategies are documented. point of care diagnostics being used for country priority diseases**	**National quality standards have been developed but there is no system for verifying their implementation**
Limited Capacity- 2			
National Plan of Action that includes essential functions of laboratories, minimum standards and licensing/registration aligned with internationally accepted best practices for priority diseases implemented and operationalized. Training curriculum is developed/adapted for all staff which includes annual task-based training, refresher training or mentoring in their appropriate technical and administrative areas.	Functional system for specimen referral to reference laboratories within the appropriate time-frame of collection is operationalized.	Tier-specific testing strategies for priority diseases at designated laboratories are implemented. In-service training plans are developed for all staff which includes annual task-based training, refresher training or	QMS into subnational and national public health laboratories is implemented and regulated.

Diagnostic capabilities and equipment to detect priority pathogens are operationalized within designated laboratories. National training curriculum, SOPs, tool-kits, best-practices, and procedures are disseminated to laboratory staff to ensure best practices according to IHR standards.		mentoring in their appropriate technical and administrative areas.	
National laboratory system is capable of conducting 3-4 core tests	**System is in place to transport specimens to national laboratories from 50- 80% of intermediate level/districts within the country for advanced diagnostics**	**Tier specific diagnostic testing strategies are documented, but not fully implemented. Country is proficient in classical diagnostic techniques including bacteriology, serology and PCR in select labs but has limited referral and confirmatory processes. Country is using point of care diagnostics for country priority diseases, and at least one other priority disease**	**A system of licensing of health laboratories that includes conformity to a national quality standard exists but it is voluntary or is not a requirement for all laboratories.**
Developed Capacity- 3			
Access to networks of international laboratories established to meet diagnostic and confirmatory laboratory requirements and support outbreak investigations for events specified in Annex 2 of IHR (2005).	Procedures for clinical specimens from investigation of urgent public health events delivery and testing to appropriate national or international reference laboratories within the appropriate time-frame of collection are implemented.	Reliable diagnostic capacity is improved for core pathogen tests according to a process aligned with international best practices.	Individuals from laboratories are designated to perform QMS data analysis and utilization to inform laboratory program activities and policies.
	Staff at the national level for the safe shipment of infectious substances according to international standards (ICAO/IATA) are trained.		Required conformity to QMS are established and implemented with designated regulatory authorities for validation and regulation.

Diagnostic equipment and supplies are updated with relevant diagnostic capacities to perform core tests of priority diseases.	Sample collection and transportation kits prepositioned at appropriate levels for trained and certified personnel for specimen collection, packaging, labelling, referral & shipment, according to safety procedures. Processes for shipment of infectious substances when investigating an urgent public health event consistently meet IATA/ICAO standards.		
National laboratory system is capable of conducting five or more of the ten core tests	**System is in place to transport specimens to national laboratories from at least 80% of intermediate level/districts within the country for advanced diagnostics**	**Country has tier specific diagnostic testing strategies documented and fully implemented, a national system of sample referral and confirmatory diagnostics culminating in performance of modern molecular or Country is using point of care diagnostics according to tier specific diagnostic testing strategies for diagnosis of country priority diseases serological techniques at national and/or regional laboratories**	**Mandatory licensing of all health laboratories is in place and conformity to a national quality standard is required**
Demonstrated Capacity- 4			
Monitoring and evaluation assessment to document diagnostics, data quality and staff performance, and incorporate recommendations into the national laboratory strategic plan is completed. Laboratories capable of rapidly and accurately detecting pathogens of security concern using modern diagnostic techniques are established.	Monitoring and evaluation assessment of specimen referral systems are completed, and used to update the national laboratory strategic plan.	Monitoring and evaluation assessment is completed to document diagnostics, data quality and staff performance, and incorporate recommendations into the national laboratory strategic plan.	National EQA program across microbiology, virology, serology, and parasitology is implemented.

Procedures are in place for rapid virological assessment of cluster of cases with severe acute respiratory illness of unknown cause, acute febrile diseases of unknown cause or individual cases when epidemiologic risk is high.	Investigations or training exercises are conducted to confirm functionality of specimen referral systems.	Regulatory authorities are designated to validate or regulate specific diagnostic testing strategies and point of care diagnostics.	All national reference laboratories are accredited to international standards, or to national standards adapted from international standards.
In addition to achieving "demonstrated capacity", country has national system for procurement and quality assurance	**Demonstrated capability plus, transport specimens to/from other labs in the region; specimen transport is funded from host country budget**	**Country has sustainable capability for performing modern molecular and serological techniques as part of a national system of sample referral and confirmatory diagnostics. Country is using rapid and accurate point of care diagnostics as defined by tier specific diagnostic testing strategies. Country is also engaging formally other reference laboratories for testing capacity not available in country where needed to supplement the national diagnostic testing strategies for seven or more of ten lab tests required for priority diseases Country is able to sustain this capability on its own (no more than 20% dependence on donor funding)**	**Mandatory licensing of all health laboratories is in place and conformity to an international quality standard is required**
Sustainable Capacity- 5			
Strategic framework is developed to nationally prioritize resources and investments in Laboratory Capacity.	Sustainable funding of the national standard of specimen collection, handling, preservation, protection, transportation, disposal, packaging and	Strategic framework is developed to nationally prioritize resources and investments in laboratory development.	National plan for QMS compliance is strengthened at the subnational and national level.

EQA in designated human and animal laboratories implement EQA Assessment schemes for priority diseases.	import/export procedures is obtained.		
Sustainable funding for integrated laboratory capacity support is obtained.			Strategic framework is developed to nationally prioritize resources and investments in QMS.
References			
Joint External Evaluation (JEE) tool, Laboratory Information Management System Strategic Implementation Plan, 2011			

6/13/2016			
Detect 2/3 : Real Time Surveillance - A functioning public health surveillance system capable of identifying potential events of concern for public health and health security, and country and regional capacity to analyze and link data from and between strengthened real-time surveillance systems, including interoperable, interconnected electronic reporting systems. Countries will support the use of interoperable, interconnected systems capable of linking and integrating multi-sectorial surveillance data and using resulting information to enhance the capacity to quickly detect and respond to developing biological threats. Foundational capacity is necessary for both indicator-based (including syndromic) surveillance and event-based surveillance, in order to support prevention and control activities and intervention targeting for both established infectious diseases and new and emerging public health threats. Strong surveillance will support the timely recognition of the emergence of relatively rare or previously undescribed pathogens in specific countries.			
Target: Strengthened foundational indicator- and event-based surveillance systems that are able to detect events of significance for public health, veterinary health and health security; improved communication and collaboration across sectors and between sub-national (local and intermediate), national and international levels of authority regarding surveillance of events of public health significance; improved country and intermediate level/regional capacity to analyse and link data from and between strengthened, real-time surveillance systems, including interoperable, interconnected electronic reporting systems. This can include epidemiologic, clinical, laboratory, environmental testing, product safety and quality, and bioinformatics data; and advancement in fulfilling the core capacity requirements for surveillance in accordance with the IHR and the OIE standards.			
Indicators - Real Time Surveillance			
D.2.1 Indicator and event-based systems in place	**D.2.2 Surveillance is an interoperable, interconnected, electric real-time reporting system**	**D.2.3 Analysis of surveillance data for priority disease/syndrome is analyzed, interpreted, and disseminated**	**D.2.4 Syndromic surveillance system in place**
Levels of Capacity	**Levels of Capacity**	**Levels of Capacity**	**Levels of Capacity**
No indicator or event-based surveillance systems in place	**No interoperable, interconnected, electronic real-time reporting system exists**	**No reports related to data collection**	**No syndromic surveillance systems exist**
No Capacity- 1			
Engagement meeting is conducted with Ministries (Health, Agriculture and Defense), other stakeholders and partners to determine national disease surveillance priorities, to be adopted and disseminated for priority pathogens, diseases, conditions and events of PHEIC.	Comprehensive assessment of interoperable, interconnected, electronic reporting systems to identify gaps and capacities needed for national surveillance plan is completed.	Assessment of surveillance data collection, analysis and interpretation to document gaps in surveillance information is completed.	Engagement meeting with Ministries (Health, Agriculture and Defense), other stakeholders and partners to determine national disease surveillance priorities that to adopted and disseminated for diseases, conditions and events of PHEIC is conducted.

National surveillance strategy based on IHR and OIE requirements, epidemiology and resources for priority diseases is developed.		Data quality and epidemiologic analysis conducted at local and national levels.	Assessment of national surveillance systems, and document gaps in public health and veterinary surveillance systems completed.
Specific units responsible for indicator and event-based surveillance are identified.	Surveillance plans for governance, national systems architecture and standards of data system interoperability and data exchange in support of information systems compliant with IHR and OIE are completed.	Priority pathogens identified for laboratory-based surveillance and reporting.	National surveillance strategy based on IHR and OIE requirements, epidemiology and resources for priority diseases developed.
Plans to implement a system for surveillance are defined with roles, responsibilities, operational processes and procedures for priority diseases with Ministries of Health, Agriculture and Defense.		Training curriculum developed for national and subnational health systems personnel in surveillance methods and data use.	Plans to implement a system for surveillance and response defined with established processes and procedures for priority diseases are developed.
Plans and procedures for surveillance capacity for Port Health Services at Points of Entry (POE) are developed.		The decision instrument in Annex 2 of the IHR (2005) used to notify WHO of diseases, conditions and PHEICs.	
Indicator and event-based surveillance system(s) planned to begin within a year	**Country is developing an interoperable, interconnected, electronic real-time reporting system, for either public health or veterinary surveillance systems**	**Sporadic reports related to data collection with delay**	**Syndromic system(s) planned to begin within the next year; policy/legislation is in place to allow for syndromic surveillance**
Limited Capacity- 2			
Information sources for biological events and risks identified.	Ministries of Health, Agriculture and Defense, and other stakeholders have developed a plan for interoperable information systems plans supporting indicator or event-based	Baseline estimates, trends and thresholds are defined for alert and action for the community and primary response level for priority diseases and events.	Information sources identified for public health events and risks.

The process for reporting cases, clusters, outbreaks, and events are defined and developed with Ministries of Health, Agriculture and Defense, and plans are disseminated to surveillance units.	surveillance and data exchange and integration for priority diseases based on the national surveillance strategy with national guidelines and tools are developed and accessible.	Standard reporting procedures established between human and veterinary laboratory services and surveillance units, including timeliness requirements by class of pathogen.	The process for reporting cases, clusters, outbreaks, and events are defined and developed with Ministries of Health and Agriculture, and plans are disseminated to surveillance units.
Systems and mechanisms are in place at national and/or subnational levels for capturing public health events from a variety of sources.		Plans to improve the flow and timing of surveillance information and reporting between and within levels of surveillance units are developed.	System or mechanisms in place at national and/or subnational levels for capturing public health events from a variety of sources.
Surveillance information sharing by designated PoE authorities with surveillance units and medical facilities are in place.		Triggers for sharing information on diseases, conditions and events of PHEIC with relevant multi-sectoral agencies are developed.	
Indicator or event-based surveillance system(s) in place to detect public health threats	**Country has in place an interoperable, interconnected, electronic real-time reporting system, for either public health or veterinary surveillance systems. The system is not yet able to share data in real-time**	**Regular reporting of data with some delay; ad-hoc teams put in place to analyze data**	**Syndromic system(s) in place to detect 1-2 core syndromes indicative of public health emergencies**
Developed Capacity- 3			
Community leaders, relevant networks, health volunteers, and other community structures are sustainably trained on the detection and reporting of unusual events.	Interoperable information systems for laboratory services within laboratories and through data exchange and integration across local and national laboratories and health services supporting	Deviations or values exceeding thresholds are detected and used to improve action at the primary response level.	Regular feedback of syndromic surveillance results to all levels and other relevant stakeholders is disseminated.

National training curriculum, SOPs, tool-kits, best-practices, and procedures are disseminated to surveillance staff to ensure best practices according to IHR standards.	public and veterinary health threat detection and response activities based on the national surveillance strategy are operationalized.		National training curriculum, SOPs, tool-kits, best-practices, and procedures are disseminated to surveillance staff to ensure best practices according to IHR standards.
Surveillance systems operationalized for human and veterinary priority diseases surveillance capacity for Port Health Services at Point of Entries (POE).	Platform and capacity for data integration, analysis and use across all levels and domains of the national health surveillance system promoting national and international data use and exchange for early detection and rapid response for public and veterinary health threat are operationalized.	Data management procedures and quality assurance of laboratory diagnostic reporting are established.	
	Plans implemented to establish case management system that is integrated into an interoperable, interconnected, electronic real-time reporting system.		
Indicator and event-based surveillance system(s) in place to detect public health threats	**Country has in place an interoperable, interconnected, electronic real-time reporting system, for either public health, health or veterinary surveillance systems. The system is not yet fully sustained by host government**	**Annually or monthly reporting; attributed functions to experts for analyzing, assessing and reporting data**	**Syndromic system(s) in place to detect three or more syndromes indicative of public health emergencies**
Demonstrated Capacity- 4			

Guidelines implemented for event confirmation, verification, assessment and notification. Policies, regulations, and communication procedures established at designated PoE as required by the IHR in Annex 1.	Plans developed with country commitment to a sustainable funding plan for interoperable, interconnected, electronic real-time reporting system.	Data is compiled, analyzed for trends, summarized for decision-making, and shared with stakeholders.	Regular feedback of syndromic surveillance results to all levels and other relevant stakeholders is disseminated.
In addition to surveillance systems in country, using expertise to support other countries in developing surveillance systems and provide well-standardized data to WHO and OIE for the past five years without significant external support	**Country has in place an interoperable, interconnected, electronic real-time reporting system, including both the public health or veterinary surveillance systems which is sustained by the government and capable of sharing data with relevant stakeholders according to country policies and international obligations**	**Systematic reporting; dedicated team in place for data analysis, risk assessment and reporting**	**In addition to surveillance systems in country, using expertise to support other countries in developing surveillance systems**
Sustainable Capacity- 5			
Sharing of surveillance activities is coordinated and supported through government commitment, stakeholders and partnerships, including neighboring countries.	Sharing of surveillance activities is coordinated and supported through government commitment, stakeholders and partnerships, including neighboring countries.	Data is compiled, analyzed for trends, summarized for decision-making, and shared with stakeholders. Country has demonstrated the ability to file a report within 24 hours to the IHR Focal point and OIE for relevant zoonotic disease, based on an exercise or event.	Sharing of surveillance activities is coordinated and supported through government commitment, stakeholders and partnerships, including neighboring countries.
References			
Joint External Evaluation (JEE) tool, IHR (2005), Handbook for the Assessment of Capacities at the Human-veterinary Interface (WHO-OIE), Technical guidelines for IDSR in the African Region			

DRAFT 6/13/2016		
Detect 5: Workforce Development- Prevention, detection, and response activities conducted effectively and sustainably by a fully competent, coordinated, evaluated and occupationally diverse multi-sectorial workforce.		
Target: State parties should have skilled and competent health personnel for sustainable and functional public health surveillance and response at all levels of the health system and the effective implementation of the IHR (2005). A workforce includes physicians, animal health or veterinarians, biostatisticians, laboratory scientists, farming/ livestock professionals, with an optimal target of one trained field epidemiologist (or equivalent) per 200,000 population, who can systematically cooperate to meet relevant IHR and PVS core competencies.		
Indicators - Workforce Development		
D.4.1 Human resources are available to implement IHR core capacity requirements	**D.4.2 Applied epidemiology training program in place such as FETP**	**D.4.3 Workforce strategy**
Levels of Capacity	**Levels of Capacity**	**Levels of Capacity**
Country doesn't have multidisciplinary HR capacity required for implementation of IHR core capacities	**No FETP or applied epidemiology training program established**	**No health workforce strategy exists**
No Capacity-1		
Assessment of country's current capacity for One Health workforce including physicians, veterinarians, biostatisticians, laboratory personnel, livestock professionals is completed.	Engagement meeting is conducted with MoH, MoA and other stakeholders to determine readiness for a FETP program and potential career paths for FETP graduates.	Assessment of country's current strategy for recruitment of public health workforce including physicians, veterinarians, biostatisticians, laboratory personnel, livestock professionals is completed.
Engagement meeting with MoH, MoA and other stakeholders to document a plan on HR infrastructures, staffing and administrative support is completed.	Need for applied epidemiology competencies is documented by reviewing the educational system, public health training programs, workforce gaps and stakeholder interests.	Engagement meeting with Ministries of Health and Agriculture, partners and stakeholders to discuss a plan for healthcare workforce strategy, funding and implementation is completed.
	FETP goals and objectives are developed.	
Responsible unit is identified for the development of human resource capacity including IHR.	Advisory committee is established to maintain broad-based support from stakeholders and partners, that goals and objectives are met, and if program should move towards institutionalization.	
	Secure, and acceptable location for FETP management locus is selected.	

Country has multidisciplinary HR capacity (epidemiologists, veterinarians, clinicians and laboratory specialists or technicians) at national level	**No FETP or applied epidemiology training program is established within the country, but staff participate in a program hosted in another country through an existing agreement (at Basic, Intermediate and/or Advanced level)**	**A healthcare workforce strategy exists but does not include public health professions (e.g. epidemiologists, veterinarians and laboratory technicians)**
Limited Capacity- 3		
Database of in-country multi-disciplinary SMEs is developed.	Program staffing, with roles and responsibilities, are outlined.	National plan for workforce strategy is reviewed and updated to include healthcare professionals with final approval from Ministries of Health and Agriculture.
National, multi-sectoral strategic plan is developed to enhance and sustain the multidisciplinary workforce in collaboration with Ministries of Health and Agriculture.	Leadership roles and responsibilities and management of FETP to supervise staff and trainees are outlined.	
Relevant public health multidisciplinary workshops and curriculum are conducted with universities and partners, including human resource requirements for IHR.	Plan outlining technical leadership of the FETP program to facilitate and develop course curriculum, maintain scientific excellence of the training, monitor and evaluate trainees and consult on epidemiological methods is developed.	
	Field supervisors and mentors are designated for FETP.	
	FETP training materials, protocols, SOPs and tool-kits are disseminated.	
Multidisciplinary HR capacity is available at national and intermediate level	**One level of FETP (Basic, Intermediate, or Advanced) FETP or comparable applied epidemiology training program in place in the country or in another country through an existing agreement**	**A public health workforce strategy exists, but is not regularly reviewed, updated, or implemented consistently**
Developed Capacity- 3		
Recruitment program to enhance the multidisciplinary public health workforce is developed with stakeholders.	FETP is implemented at either the basic, intermediate or advanced level at designated sites.	Public and One health workforce strategic plan is completed.

Continuing education programs in relevant One health disciplines are developed.	Trained FETP staff are integrated into core public health competencies (Frontline surveillance, epidemiology, biostatistics, laboratory and biosafety, communication).	
Partnerships with international organizations are established to enhance university curriculum for One Health disciplines.	Field supervision and mentoring are designated to monitor trainee activity, development of projects, barriers to training, etc.	
Multidisciplinary HR capacity is available as required at relevant levels of public health system (e.g. epidemiologist at national level and intermediate level and assistance epidemiologist (or short course trained epidemiologist) at local level available)	**Two levels of FETP (Basic, Intermediate and/or Advanced) or comparable applied epidemiology training program(s) in place in the country or in another country through an existing agreement**	**A public health workforce strategy has been drafted and implemented consistently; strategy is reviewed, tracked and reported on annually**
Demonstrated Capacity- 4		
Collaborations are encouraged with WHO, FAO, World Bank, OIE, and other international stakeholders focused on the development of workforce capacity.	Two levels of FETP are implemented at either the basic, intermediate or advanced level at designated sites.	The implementation of the national health and One health workforce strategy is monitored and evaluated to track progress and barriers.
Continuing education is established for multi-disciplinary workforce.	Staff are trained in procedures and tools to analyze data by time, place and person.	
	Monitoring and evaluation assessment of the performance of FETP workforce within the healthcare systems is conducted.	
	Network of FETP graduates is operational to facilitate professional development.	
Country has capacity to send and receive multidisciplinary personnel within country (shifting resources) and internationally	**Three levels of FETP (Basic, Intermediate and Advanced) or comparable applied epidemiology training program(s) in place in the country or in another country through an existing agreement, with sustainable national funding**	**"Demonstrated Capacity" has been achieved, public health workforce retention is tracked and plans are in place to provide continuous education, retain and pro- mote qualified workforce within the national system**
Sustainable Capacity- 5		
Sustainable plan is developed and implemented for multidisciplinary workforce development.	Training workshops are conducted for relevant career tracks.	Strategic framework is developed to nationally prioritize resources and investments in One Health

National plans for workforce development are routinely updated.	Relevant workforce is trained in IHR competency and One-Health approach.	workforce development.
	FETP workforce capacity is expanded into additional jurisdictions.	
	Sustained funding is established for FETP career tracks.	
	Trainees are recruited for FETP.	
	Engagement meetings are conducted with MoH, MoA, partners and stakeholders to strengthen options for field placements, and to sustain funding for FETP management.	
	Continuing education capacity for One Health established.	
References		
Joint External Evaluation (JEE) tool, Field Epidemiology Training Program Development Handbook, CDC		

DRAFT 6/27/2016			
Respond 1: Emergency Response Operations- Effective coordination and improved control of outbreaks as evidenced by shorter times from detection to response and smaller numbers of cases and deaths.			
Target: Countries will have a public health emergency operation centre (EOC) functioning according to minimum common standards; maintaining trained, functioning, multi-sectoral rapid response teams and "real-time" bio surveillance laboratory networks and information systems; and trained EOC staff capable of activating a coordinated emergency response within 120 minutes of the identification of a public health emergency.			
Indicators - Emergency Response Operations			
R.2.1 Capacity to Activate Emergency Operations	**R.2.2 Emergency Operations Centre Operating Procedures and Plans**	**R.2.3 Emergency Operations Program**	**R.2.4 Case management procedures are implemented for IHR relevant hazards.**
Levels of Capacity	**Levels of Capacity**	**Levels of Capacity**	**Levels of Capacity**
No identified procedures have been developed to determine when to activate public health emergency operations	**No EOC plans/procedures for Incident Management Structure (or equivalent) are in place**	**No exercises have been completed**	**No case management guidelines are available for priority epidemic-prone diseases**
No Capacity- 1			
Buy-in by the country leadership (above that of the Ministry of Health) is obtained on the rationale for a permanent public health emergency operations center (PHEOC) and its associated public health emergency management program.	Multi-year strategic plan for PHEM capacity enhancement is developed with MoH.	National baseline assessment of public health emergency management (PHEM) capacities, including PHEOC infrastructure, PHEM workforce, and PHEM systems is completed.	Please see Surveillance/Informatics milestones to meet this capacity
Mission, roles, and responsibilities of the national PHEOC are developed.	Multi-year budget updated annually to sustain its PHEM capacities is developed with MoH.	Exercises are designed - if appropriate, in conjunction with PHEOC staff training plan.	
PHEOC policies, plans protocols and SOP documents are identified and disseminated.	Risk communications strategy and/or operational plan are developed.		
National policy, legal authorities and/or doctrine documents that provide guidance on the conduct of public health	Country's priority public health threats and hazards are documented and risk assessment is completed.	Training on designing exercises for PHEOC preparedness and response is completed.	

emergency response are identified and analyzed.			
Organizational model for IMS that includes the five essential functions: incident management, operations, planning, logistics, and finance/administration is developed.	Missions, mandates, capabilities, and capacities of participating agencies for PHEOC functioning and response are developed.	Table-top trainings and exercises for event- or hazard-specific response and management plans with sectors, stakeholders, and other agencies are completed.	
Core public health emergency management (PHEM) staff needs are identified.	National public health response fund and the policies for utilization of this fund are identified.		
Key staff are recruited according to identified staff needs.	PHEOC policies, plans protocols and SOP documents are identified and disseminated.		
Authorities for activation and deactivation of the national PHEOC are identified.			
PHEOC facility location and funding mechanisms for PHEOC are identified.			
EOC point of contact is available 24/7 to guide response	**EOC plans/procedures describing incident management structure (IMS) or equivalent structure are in place; plan describes key structural and operational elements for basic roles (including Incident management or command, Operations, Planning, Logistics and Finance)**	**Table top exercise has been completed to test systems and decision making**	**Case management guidelines are available for priority epidemic-prone diseases**
Limited Capacity- 2			
Commitment of the MoH and approval of the Country Office for EOC management training are secured.	PHEOC facility location and funding mechanisms for PHEOC are identified.	Multi-sectoral table-top exercises conducted.	Please see Surveillance/Informatics milestones to meet this capacity.

Commitment and approval to train EOC manager through the PHEM fellowship or equivalent secured. Core public health emergency management (PHEM) staff needs are identified.	Logistical plans to link laboratory and surveillance capabilities to the incident management center at PHEOC are developed	Operations-based, PHEOC functional exercises to test coordinated response in a public health emergency are conducted.	
EOC staff team is trained in emergency management and PHEOC standard operating procedures and is available for response when necessary	**In addition to meeting requirements of "limited capacity", EOC plans are in place for functions including public health science (epidemiology, medical and other subject matter expertise), public communications, partner liaison**	**Functional exercise has been completed to test operations capabilities but EOC has not yet been activated for a response. System is not yet capable of activating a coordinated emergency response within 120 minutes of the identification of a public health emergency**	**Case management guidelines for other IHR relevant hazards are available at relevant health system levels and SOPs are available for the management and transport of potentially infectious patients in the community and at PoE**
Developed Capacity- 3			
EOC staff training plans are developed by the MoH.	National CONOPS that define the relationship between the national disaster management organization and the national PHEOC are identified.	EOC activates a coordinated emergency response or exercise within 120 minutes of the identification of a public health emergency; response utilized operations, logistic and planning functions.	Please see Surveillance/informatics milestones to meet this capacity.
Basic public health emergency management training completed.	IMS structure including the succession plan for the national PHEOC and TOR for each IMS structure are developed.		
Intermediate public health emergency management training completed.	TORS for each IMS structure position are developed.		
Intermediate public health emergency management training completed.	PHEOC forms and templates for data collection (e.g., Situation Reports) developed.		
Advanced public health emergency management training completed.			

Position-specific public health emergency management training completed.			
In addition to activities for "developed capacity", there is dedicated EOC staff that has received training and can activate a response within two hours	**In addition to meeting "developed capacity", the following EOC plans are in place: concept of operations; Forms and templates for data collection, reporting, briefing; Role descriptions and job aids for EOC functional positions**	**EOC activated a coordinated emergency response or exercise within 120 minutes of the identification of a public health emergency; response utilized operations, logistic and planning functions**	**Case management, patient referral and transportation, and management and transport of potentially infectious patients are implemented according to guidelines and/or SOPs**
Demonstrated Capacity- 4			
Communication connectivity with international, national, and sub-national public health focal points is established.	PHEOC activation triggers identified.	After Action Reviews (AAR) and improvements for trainings and exercises are incorporated into public health national response plans.	Please see Surveillance/Informatics milestones to meet this capacity.
Ensure trained staff are in place to test PHEOC equipment systems.	Public health response levels are developed.		
The multi-sectorial emergency response department includes all key stakeholders for public and animal health, including veterinary, wildlife, and other pertinent experts.	Response resource mapping conducted.		
PHEOC staffing database for public health preparedness and response developed.	Public health response logistics plan or SOP developed.		
	Legislation, regulation and other national policies that outline scaled emergency management activities are developed		

In addition to activities for "demonstrated capacity", exercises are conducted two or more times per year to test EOC activation	**In addition to meeting "demonstrated capacity", response plans are in place that describe scaled levels of response with resource requirements for each level and procedures for acquiring additional resources**	**In addition to achieving demonstrated capacity, a follow up evaluation was conducted and corrective action plan was developed and implemented**	**In addition to demonstrated capacity, appropriate staff and resources (as defined by the country) is in place in management of relevant IHR-related emergencies**
Sustainable Capacity- 5			
			Please see Surveillance/Informatics milestones to meet this capacity.
References			
Joint External Evaluation Tool, Framework for a Public Health Emergency Operations Centre (WHO, 2015)			

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Respond 2: Linking Public Health and Law Enforcement- Development and implementation of a memorandum of understanding (MOU) or other similar framework outlining the roles, responsibilities, and best practices for sharing relevant information between and among appropriate human and animal health, law enforcement, and defense personnel. Ensure validation of the MOU through periodic exercises and simulations to test rapid, multi-sectorial response to potential public threat incidents. In collaboration with FAO, International Criminal Police Organization (INTERPOL), OIE, WHO, individual Biological and Toxin Weapons Convention State Parties, the United Nations Secretary-General's Mechanism for Investigation of Alleged Use of Chemical and Biological Weapons (UNSGM), and other relevant regional and international organizations as appropriate, countries will develop and implement model systems to conduct and support joint criminal and epidemiological investigations to identify and respond to suspected biological incidents of deliberate origin.
Target: In the event of a biological event of suspected or confirmed deliberate origin, a country will be able to conduct a rapid, multi-sectoral response, including the capacity to link public health and law enforcement, and to provide and/or request effective and timely international assistance, including to investigate alleged use events.
Indicator - Linking Public Health and Security Authorities
R.3.1 Public Health and Security Authorities, (e.g. Law Enforcement, Border Control, Customs) are linked during a suspect or confirmed biological event
Levels of Capacity
No legal background, relationships, protocols, MOUs or other agreements exist between public health, animal health and security authorities
No Capacity- 1
Roles and responsibilities for different sectors for responding to biological threats and other incidents of concern are determined, through review national response plans, policies, and procedures, or other means.
Baseline capacity/capabilities of partnering agencies for response to a biological threat are determined through an engagement meeting or other means.
Significant biological (and chemical or radiological) incidents of concern to the country are identified.
Points of contact at government agencies across multiple sectors (public health, animal health, security, agriculture), that can assist with the implementation of Action Package activities are identified.
Points-of-contact and triggers for notification and information sharing have been identified and shared between public health, animal health and security authorities
Limited Capacity- 2
An International Joint Investigations Workshop has been conducted to improve understanding of baseline public health, animal health, and security/law enforcement capabilities by relevant multi-sectoral agency counterparts.
Triggers for sharing information on biological threats or other incidents of concern (chemical, radiological) with relevant multi-sectoral agencies are developed.
An informal communications process to share information related to biological threats or other incidents of concern (chemical, radiological) are developed.
Logistical plans to include multi-sectoral agencies in the Public Health Emergency Operations Center (PHEOC) are developed.

The sample collection, transport, storage and testing requirements among the sectors (public health, law enforcement, agriculture) for biological threats and other incidents of concern (chemical, radiological) are determined.
Memorandum of Understanding (MOU) or other agreement (i.e., protocol) exists between public health and security authorities within the country and has been formally accepted
Developed Capacity- 3
Activities (notifications, assessments, investigation, laboratory testing) to be covered by a written protocol or MOU are identified.
A draft written protocol or MOU is developed by MoH (or other appropriate authorities) in consultation with other stakeholders that formalizes and institutionalizes interactions between public health, animal health, and security authorities.
A written protocol or MOU is finalized that formalizes and institutionalizes interactions between public health, animal health, and security authorities.
At least 1 public health emergency response or exercise within the previous year that included information sharing with Security Authorities using the formal MOU or other agreement (i.e., protocol)
Demonstrated Capacity- 4
Measurable success criteria is developed to document progress of multi-sectorial response to biological threats or other incidents of concern (chemical, radiological).
At least one public health emergency response or exercise is conducted (within the previous year) that included information sharing with security authorities using the formal protocol or MOU.
Public health and security authorities exchange reports and information on events of joint concern at national, intermediate and local levels using the formal MOU or other agreement (i.e., protocol)public health and security authorities engage in a joint training program to orient, exercise, and institutionalize knowledge of MOU or other agreements
Sustainable Capacity- 5
The effectiveness of multi-sectoral response activities is evaluated using the previously defined criteria.
Training curriculum is developed using country-specific content (e.g., regulations/authorities, agency roles/responsibilities, and case studies).
Country-specific workshop is delivered to public health, animal health, security, and other sector personnel.
National response plans is updated to identify multi-sectoral approaches for responding to biological threats and other incidents of concern (chemical, radiological).
References
Joint External Evaluation (JEE) tool, Joint Criminal and Epidemiological Investigations Handbook (2015)

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Respond 3: Medical Countermeasures and Personnel Deployment- Countries will have the necessary legal and regulatory processes and logistical plans to allow for the rapid cross-border deployment and receipt of public health and medical personnel during emergencies. Regional collaboration will assist countries in overcoming the legal, logistical and regulatory challenges to deployment of public health and medical personnel from one country to another.	
Target: A national framework for transferring (sending and receiving) medical countermeasures and public health and medical personnel among international partners during public health emergencies.	
Indicators - Medical Countermeasures and Personnel Deployment	
R.4.1 System is in place for sending and receiving medical countermeasures during a public health emergency	**R.4.2 System is in place for sending and receiving health personnel during a public health emergency**
Levels of Capacity	**Levels of Capacity**
No national countermeasures plan has been drafted	**No national personnel deployment plan has been drafted.**
No Capacity- 1	
National response plans, legal and regulatory framework for stockpiling and deploying medical countermeasures, including sector roles and responsibilities are reviewed.	National response plans and legal & regulatory framework for personnel deployment, including sector roles and responsibilities are reviewed.
National laws and regulations for the procurement of medical devices, medications, vaccines, and medical supplies from international sources during public health emergencies are reviewed.	Barriers to receiving health personnel during emergencies are identified.
Engagement meeting to determine baseline capacity/capabilities of partnering agencies for deployment of medical countermeasures is conducted.	Points of contact at relevant multi-sectoral organizations are identified to assist with the implementation of the technical area/action package activities.
Points of contact at relevant multi-sectoral organizations are identified to assist with the implementation of the technical area/action package activities.	Base camps or facilities for receiving health personnel are identified.
Barriers to receiving, procuring, storing, and deploying medical countermeasures are identified and documented.	
Feasibility assessment for MCM stockpile establishment is completed.	
Secure and functional facilities to stockpile medical countermeasures are identified.	
Plans have been drafted that outline system for sending and receiving medical countermeasures during public health emergencies	**Plans have been drafted that outline system for sending and receiving health personnel during public health emergencies**

Limited Capacity- 2	
National guidance documents on medical countermeasures stockpile and deployment are established/adapted.	Communication and coordination protocols for incoming international health personnel during emergencies are developed.
Training of early responders in appropriate use and management of non-medical countermeasures is initiated.	Safety and liability guidance documents for personnel deployment during medical emergencies is developed.
Resources for countermeasures are mapped both within country and with partners.	Communication network for health personnel during emergencies is established.
Standardized countermeasure requirements with protocols for storage, deployment, and logistical & administrative support are developed.	Standard Operating Procedures and training for the organization, transportation, and distribution of PPE, medications, and medical supplies to health personnel are developed.
Activities to be covered by a written protocol or Memorandum of Understanding (MOU) are determined.	Standardized plans for treatment centers for triage during emergency incidents are developed.
Logistics and operational plans for the optimized use of medical countermeasures are developed for all levels of response.	National and regional plans to implement best practices for health personnel deployment during public health emergencies are developed.
Regulatory pathways to facilitate medical countermeasures during public health emergencies are established.	Triggers for sharing information and emergency personnel deployment plans with relevant multi-sectoral agencies are identified.
Database of threat-based approaches and potential medical countermeasures needed for response is created.	Tools for emergency health disaster education for the public for community acceptance of deployed health personnel are developed.
Protocols, Standard Operating Procedures, technical guidelines, and toolkits adapted to ensure effective deployment of medical countermeasures.	
Medical countermeasure communications materials, trainings, and educational information to inform staff, the community and stakeholders are created.	
Risk-mapping to identify strategies for medical countermeasure deployment is performed.	
Coordination of responses to observe appropriate authorizations, clearances, ethical norms, and permissions during investigations is ensured.	
Country plans, procedures, or legal provisions are created for procuring animal countermeasures.	
National and regional plans to implement best practices for medical countermeasure deployment during public health emergencies are developed.	
Table-top exercise(s) has been conducted to demonstrate decision making and protocols for sending or receiving health personnel from another country during a public health emergency	**Table-top exercise(s) has been conducted to demonstrate decision making and protocols for sending or receiving health personnel from another country during a public health emergency**

Developed Capacity- 3	
Trainings and exercises for event or hazard-specific response and management plans with sectors, stakeholders, and other agencies are developed.	Protocols, Standard Operating Procedures, technical guidelines, and toolkits for sending and receiving health personnel are adapted.
	Trainings and exercises for hazard-specific response and management plans with relevant sectors, stakeholders, and other agencies are developed.
At least one response OR a formal exercise or simulation within the previous year in which medical countermeasures were sent or received by the country	**At least one response OR formal exercise or simulation within the previous year in which health personnel were sent or received by the country**
Demonstrated Capacity- 4	
Capacity of emergency deployment of medical countermeasures response to emerging infectious diseases is tested.	Capacity of emergency deployment of medical countermeasures response to emerging infectious diseases is tested.
Measurable success criteria to document progress of countermeasure response is determined.	Measurable success criteria to document progress of countermeasure response are determined.
Country participates in a regional/international partnership or has formal agreement with another country or international organization that outlines criteria and procedures for sending and receiving medical countermeasures AND has participated in an exercise or response within the past year to practice deployment or receipt of medical countermeasures	**Country participates in a regional/international partnership or has formal agreement with another country or international organization that outlines criteria and procedures for sending and receiving health personnel AND has participated in an exercise or response within the past year to practice deployment or receipt of health personnel**
Sustainable Capacity- 5	
International partnerships with medical product manufacturers supported and core services are supported.	National plans and policies for personnel deployment are regularly updated.
National plans and policies for medical countermeasure stockpile/deployment measures are updated.	Engagement meeting(s) to build regional partnerships for personnel deployment is/are conducted.
Strategic framework to nationally prioritize resources and investments in medical countermeasures is developed.	
References	
Joint External Evaluation (JEE) Tool, Laboratory Information Management System Strategic Implementation Plan, 2011, 2014 Public Health Emergency Medical Countermeasures Enterprise (PHEMCE) Strategy and Implementation Plan, HHS	

Acronyms

AAR	After Action Review
AMR	Anti-microbial Resistance
AST	Antimicrobial Susceptibility
BS&S	Biosafety and Biosecurity
CDC	Centers for Disease Control and Prevention
CONOPS	Concept of Operations
EQA	External Quality of Assessment
EOC	Emergency Operation Center
FAO	Food and Agriculture Organization of the United Nations
FETP	Field Epidemiology Training Program
GLASS	The Global Antimicrobial Resistance Surveillance System
HCAI	Healthcare Associated Infections
HHS	The Department of Health and Human Services
ICAO	International Civil Aviation Organization
IATA	the International Air Transport Association
IHR	International Health Regulations (2005)
IMS	Incident Management System
IPC	Infection Prevention and Control
MoA	Ministry of Agriculture
MoH	Ministry of Health
MOU	Memorandum of Understanding
OIE	World Organisation for Animal Health
PHEOC	Public Health Emergency Operation Center
PHEM	Public Health Emergency Management
PHEIC	Public Health Emergency of International Concern
PVS	Performance of Veterinary Services
QA	Quality Assurance
QI	Quality Improvement
QMS	Quality Management System
TB	Tuberculosis
ToR	Terms of Reference
VPD	Vaccine-Preventable Disease
WHO	World Health Organization

References

Action Package	References
AMR	JEE, IHR (2005), National Action Plan for Combating Antibiotic-Resistant Bacteria
Zoonotic Diseases	JEE, IHR (2005), Assessment of Capacities at the Human-Animal Interface (WHO-OIE), Integrated disease surveillance and response in the African Region, 2010
Biosafety and Biosecurity	JEE, IHR (2005)
Immunization	JEE, IHR (2005), WHO Global Vaccine Action Plan 2011-2020
National Laboratory System	JEE, IHR (2005), Laboratory Information Management System Strategic Implementation Plan (2011), Guide for National Public Health Laboratory Networking to Strengthen IDSR, 2008
Surveillance	JEE, IHR (2005), Handbook for the Assessment of Capacities at the Human-Animal Interface (WHO-OIE), Technical guidelines for IDSR in the African Region
Workforce Development	JEE, IHR (2005), Field Epidemiology Training Program Development Handbook, CDC
EOC	JEE, IHR (2005), Framework for a Public Health Emergency Operations Centre (WHO, 2015)
LPH and SA	JEE, IHR (2005), Joint Criminal and Epidemiological Investigations Handbook (2015)
MC and PD	JEE, IHR (2005), Laboratory Information Management System Strategic Implementation Plan, 2011, 2014 Public Health Emergency Medical Countermeasures Enterprise (PHEMCE) Strategy and Implementation Plan, HHS