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Supplementary appendix

This appendix formed part of the original submission and has been peer reviewed. We post it as supplied by the authors.

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Appendix

Figure 1. Health security capacities and indicators listed in the first edition of the International Health Regulations Joint External Evaluation (JEE) Tool.⁸

Goal	Capacity	Joint External Evaluation Tool Indicator
Prevent public health emergencies	P.1 National Legislation, Policy and Financing	P.1.1. Legislation, laws, regulations, administrative requirements, policies or other government instruments in place are sufficient for implementation of the IHR
		P.1.2. The state can demonstrate that it has adjusted and aligned its domestic legislation, policies, and administrative arrangements to enable compliance with the IHR
	P.2 International Health Regulation Coordination	P.2.1. A functional mechanism is established for the coordination and integration of relevant sectors in the implementation of IHR
	P.3 Antimicrobial Resistance (AMR)	P.3.1. Antimicrobial resistance detection
		P.3.2. Surveillance of infections caused by antimicrobial resistant pathogens
		P.3.3. Healthcare associated infection (HCAI) prevention control programs
		P.3.4. Antimicrobial stewardship activities
	P.4 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
	P.5 Food Safety	P.5.1. Mechanisms are established and functioning for detecting and responding to foodborne disease & food contamination
	P.6 Biosafety & 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 practices
	P.7 Immunization	P.7.1 Vaccine coverage (measles) as part of national program
P.7.2 National vaccine access and delivery		
Detect public health emergencies	D.1 National Laboratory Systems	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
	D.2 Real Time Surveillance Systems	D.2.1. Indicator and event based surveillance systems
		D.2.2. Interoperable, interconnected, electronic real-time reporting system
		D.2.3. Analysis of surveillance data
		D.2.4. Syndromic surveillance systems
	D.3 Reporting	D.3.1. System for efficient reporting to WHO, FAO and OIE
		D.3.2. Reporting network and protocols in country
	D.4 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 field epidemiology training program (FETP)
D.4.3. Workforce strategy		
Respond to public health emergencies	R.1 Preparedness	R.1.1. Multi-hazard national public health emergency preparedness and response plan is developed and implemented
		R.1.2. Priority public health risks and resources are mapped and utilized
	R.2 Emergency Response Operations	R.2.1. Capacity to activate emergency operations
		R.2.2. Emergency Operations Centre (EOC) operating procedures & plans
		R.2.3. Emergency operations program
		R.2.4. Case management procedures are implemented for IHR relevant hazards
	R.3 Linking Public Health & Security Authorities	R.3.1. Public health & security authorities, (e.g. law enforcement, border control, customs) are linked during a suspect or confirmed biological event
	R.4 Medical Countermeasures & 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
	R.5 Risk Communication	R.5.1. Risk communication systems (plans, mechanisms, etc.)
		R.5.2. Internal and partner communication & coordination
R.5.3. Public communication		
R.5.4. Communication engagement with affected communities		
R.5.5. Dynamic listening and rumour management		
Other health security considerations	Points of Entry (PoE)	PoE.1. Routine capacities are established at points of entry
		PoE.2. Effective public health response at points of entry
	Chemical Events (CE)	CE.1. Mechanisms are established and functioning for detecting and responding to chemical events or emergencies
		CE.2. Enabling environment is in place for management of chemical events
	Radiation Emergencies (RE)	RE.1. Mechanisms are established and functioning for detecting and responding to radiological & nuclear emergencies
		RE.2. Enabling environment is in place for management of radiation emergencies

Figure 2. The geographic distribution of the ten countries included in analysis.

