



# **International Health Regulations (2005)**

## **IHR MONITORING FRAMEWORK:**

### **CHECKLIST AND INDICATORS FOR MONITORING PROGRESS IN THE DEVELOPMENT OF IHR CORE CAPACITIES IN STATES PARTIES**

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## **TABLE OF CONTENTS**

### **ACKNOWLEDGEMENTS**

### **ACRONYMS**

### **GLOSSARY**

### **I. INTRODUCTION**

#### **1.1. IHR (2005) BACKGROUND**

#### **1.2. PURPOSE AND SCOPE**

#### **1.3. THE PROCESS USED IN DEVELOPING THE MONITORING FRAMEWORK**

#### **1.4. INTENDED USERS**

### **II. OBJECTIVES OF MONITORING THE DEVELOPMENT AND STRENGTHENING OF IHR CORE CAPACITIES**

### **III. CONCEPTUAL FRAMEWORK USED FOR MONITORING IHR CORE CAPACITIES STRENGTHENING**

### **IV. ORGANIZATION OF THE MONITORING CHECKLIST**

### **V. AREAS TO BE MONITORED**

### **VI. DEFINITION OF CAPABILITY LEVELS WITHIN THE MONITORING FRAMEWORK**

### **VII. DATA ANALYSIS AND INTERPRETATION**

#### **7.1. THE CAPABILITY LEVEL**

#### **7.2. THE ATTRIBUTE SCORE**

#### **7.3. ANALYSIS AND INTERPRETATION OF CAPABILITY LEVEL AND SCORES**

##### **7.3.1. ANALYSIS AND INTERPRETATION OF CAPABILITY LEVEL <1**

##### **7.3.2. ANALYSIS AND INTERPRETATION OF CAPABILITY LEVELS 1 AND 2**

##### **7.3.3. ANALYSIS AND INTERPRETATION OF CAPABILITY LEVEL 3**

#### **7.4. STATES PARTIES REPORTS**

### **VIII. OUTPUTS**

#### **8.1. INFORMATION PRODUCTS**

#### **8.2. VISUALIZATION OF DATA**

### **IX. DATA MANAGEMENT AT THE NATIONAL LEVEL**

### **X. DATA MANAGEMENT AT THE GLOBAL LEVELS**

### **XI. COUNTRY LEVEL PROCESS FOR COLLECTING DATA**

### **XII. WHA INDICATORS**

### **XIII. APPENDICES**

#### **13.1 RECOMMENDED CHECKLIST AND INDICATORS FOR MONITORING PROGRESS OF IHR CORE CAPACITY DEVELOPMENT**

#### **13.2 CONCEPTS APPLIED IN DEVELOPING IHR CORE CAPACITY MONITORING**

#### **13.3. EXAMPLE OF DATA COLLECTION FORM**

#### **13.4. EXAMPLE OF COUNTRY OVERVIEW OF STATUS OF IHR CORE CAPACITY DEVELOPMENT**

#### **13.5. PROTOTYPE OF AGENDA FOR FACILITATED DATA COLLECTION WORKSHOP**

#### **13. 6. ANALYSIS OF STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS (SWOT ANALYSIS)**

#### **13.7. LIST OF INDICATORS FOR COMPREHENSIVE MONITORING OF IHR CORE CAPACITY DEVELOPMENT**

#### **13.8. CRITERIA FOR THE SELECTION OF INDICATORS TO BE REPORTED TO THE WORLD HEALTH ASSEMBLY (WHA)**

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## **ACRONYMS**

<b>PAHO</b>	WHO Regional Office for the Americas/Pan American Health Organization
<b>ICAO</b>	International Civil Aviation Organization
<b>IHR</b>	International Health Regulations (2005)
<b>INFOSAN</b>	International Food Safety Authorities Network
<b>IPC</b>	infection prevention and control
<b>MoH</b>	Ministry of Health
<b>NFP</b>	National Focal Point
<b>NGO</b>	non-governmental organization
<b>PAHO</b>	Pan American Health Organization
<b>PoE</b>	points of entry
<b>RRT</b>	rapid response teams
<b>SOP</b>	standard operating procedure
<b>SWOT</b>	strengths, weaknesses, opportunities and threats analysis
<b>UN</b>	United Nations Organization
<b>WHA</b>	World Health Assembly
<b>WHO</b>	World Health Organization

## Glossary

**Note: Terms and definitions have been provided for use in the context of this tool only and may differ from those used in other documents**

**attribute:** one of a set of specific elements or characteristics to reflect a level of performance or achievement for a specific indicator.

**biosafety:** the maintenance of safe conditions in biological research to prevent harm to workers, non-laboratory organisms or the environment.

**capability level:** the level of performance attained by a State Party for a given indicator, component and core capacity.

**case definition:** a set of diagnostic criteria that must be fulfilled for an individual to be regarded as a case of a particular disease for surveillance and outbreak investigation purposes. Case definitions can be based on clinical criteria, laboratory criteria or a combination of the two with the elements of time, place and person.

**chemical event:** a manifestation of a disease or an occurrence that creates a potential for a disease as result of exposure to or contamination by a chemical agent.

**cluster:** 1) aggregation of relatively uncommon events or diseases in space and/or time in amounts that are believed or perceived to be greater than could be expected by chance (*Adapted from Last JM, A Dictionary of Epidemiology, 2001*); 2). Cluster in this document also refers to the method of aggregating attributes to determine the level of performance for a given indicator.

**communicable disease or infectious disease:** an illness due to a specific infectious agent or its toxic products that arises through transmission of that agent or its products from an infected person, animal or reservoir to a susceptible host, either directly or indirectly through an intermediate plant or animal host, vector or the inanimate environment (*Last JM, ed. A Dictionary of Epidemiology, 2001*).

**competent authority:** authority responsible for the implementation and application of health measures under the IHR (2005).

**component:** a subset of the core capacity. A set of indicators contribute to a component, and a group of components in turn measures the achievement of a core capacity.

**contamination:** the presence of an infectious or toxic agent or matter on a human or animal body surface, in or on a product prepared for consumption or on other inanimate objects, including conveyances, that may constitute a public health risk.

**core capacity:** the essential capacities that States Parties need to strengthen to achieve compliance with IHR (2005) requirements by the year 2012. 8 core capacities are defined in this document.

**decontamination:** the process for the removal of pathogenic microorganisms from objects and equipments in order to make them safe for handling (*Sterilization manual for health centres, PAHO/WHO, 2009*)

**deratting** means the procedure whereby health measures are taken to control or kill rodent vectors of human disease present in baggage, cargo, containers, conveyances, facilities, goods and postal parcels at the point of entry

**disease:** an illness or medical condition, irrespective of origin or source, that presents or could present significant harm to humans.

**disinfection:** 1) a process that eliminates all pathogenic microorganisms, with the exception of bacterial spores, from inanimate objects, for the purpose of minimizing risk of infection (*Infection prevention and control of epidemic- and pandemic-prone acute respiratory diseases in health care, WHO Interim Guidelines*); 2) the procedure whereby health measures are taken to control or kill the insect vectors of human diseases present in baggage, cargo, containers, conveyances, goods and postal parcels.

**early warning system** In disease surveillance, a specific procedure to detect as early as possible any abnormal occurrence or any departure from usual or normally observed frequency of phenomena (e.g. one case of Ebola fever). An Early Warning System is only useful if linked to mechanisms for early response. (*Adapted from Last JM, A Dictionary of Epidemiology, 2001*).

**evaluation:** a process that attempts to determine as systematically and objectively as possible the relevance, effectiveness and impact of activities in light of their objectives. This could include evaluation of structures, processes and outcomes (*Adapted from Last JM, ed. A Dictionary of Epidemiology, 2000*).

**event:** a manifestation of disease or an occurrence that creates a potential for disease.

**event based surveillance:** the organized and rapid capture of information about events that are a potential risk to public health including events related to the occurrence of disease in humans and events related to potential risk-exposures in humans. This information can be rumours or other ad-hoc reports transmitted through formal channels (e.g. established routine reporting systems) or informal channels (e.g. media, health workers and non-governmental organizations reports)

**feedback:** the process of sending analyses and interpretations of surveillance data regularly through all levels of the surveillance system so that all participants can be informed of trends and performance.

**food safety event:** a manifestation of a disease or an occurrence that creates a potential for a disease as a result of the use of or exposure to food products.

**geographic information system:** an organized collection of computer hardware, software, geographical data and personnel designed to efficiently capture, store, update, manipulate, analyse and display all forms of geographically referenced information. It is first and foremost an information system with a geographical variable, which enables users to easily process, visualize and analyse data or information spatially. It can be used to prepare models showing trends in time and space. Satellite imaging and remote sensing have expanded its scope, e.g., to identify regions prone to malaria).

**ground crossing:** a point of land entry in State Parties including one utilized by road vehicles and trains.

**health-care worker:** any employee in a health-care facility who has close contact with patients, patient-care areas or patient-care items; also referred to as *health-care personnel* or a variety of professionals (medical practitioners, nurses, physical and occupational therapists, social workers, pharmacists, spiritual counsellors, etc.) who are involved in providing coordinated and comprehensive care (*Infection prevention and control of epidemic- and pandemic-prone acute respiratory diseases in health care, WHO Interim Guidelines*).

**health event:** any event relating to the health of an individual (e.g., the occurrence of a case of a specific disease or syndrome, the administration of a vaccine or an admission to hospital).

**health measure:** procedures applied to prevent the spread of disease or contamination; a health measure does not include law enforcement or security measures.

**incidence:** the number of instances of illness commencing, or of persons falling ill during a given period in a specified population (*Prevalence and Incidence. WHO Bulletin, 1966, 35: 783-784*).

**indicator:** variables that can be measured repeatedly (directly or indirectly) over time and provide measures of change in a system. An indicator can be a qualitative or quantitative variable, which allows for an objective measurement of the progress of a programme or event. These measurements need to be interpreted in the broader context, taking into consideration other sources of information (e.g., supervisory reports and special studies) and supplemented with qualitative information.

**indicator based surveillance:** the routine reporting of cases of disease, including through notifiable diseases surveillance systems, sentinel surveillance, laboratory based surveillance etc. This routine reporting originates typically from a health-care facility where reports are submitted at weekly or monthly intervals.

**infection:** the entry and development or multiplication of an infectious agent in the body of humans and animals that may constitute a public health risk.

**infection control:** measures practiced by health-care workers in health-care settings to limit the introduction, transmission and acquisition of infectious agents in health-care settings (e.g., proper hand hygiene, scrupulous work practices, and the use of personal protective equipment such as masks or particulate respirators, gloves, gowns, and eye protection; infection control measures are based on how an infectious agent is transmitted and include standard, contact, droplet and airborne precautions.

**infectious disease:** see communicable disease

**infection prevention and control (IPC) national programme:** the ensemble of policies, goals, strategies, legal, technical framework and monitoring of nosocomial infection (*Core components for infection prevention and control program. WHO/HSE/EPR/2009.1*)

**International Sanitary Regulations:** World Health Organization Regulations No. 2, Adopted by the World Health Assembly, 25 May 1951, reproduced in World Health Organization Technical Reports Series No. 41. WHO, Geneva, July 1951, available at [http://whqlibdoc.who.int/trs/WHO\\_TRS\\_41.pdf](http://whqlibdoc.who.int/trs/WHO_TRS_41.pdf).

**isolation:** separation of ill or contaminated persons or affected baggage, containers, conveyances, goods or postal parcels from others in such a manner as to prevent the spread of infection or contamination.

**legislation:** the range of legal, administrative or other governmental instruments which may be available for States Parties to implement the IHR. This includes legally binding instruments, e.g., state constitutions, laws, acts, decrees, orders, regulations, and ordinances; legally non-binding instruments, e.g., guidelines, standards, operating rules, administrative procedures or rules; and other types of instruments, e.g., protocols, resolutions, and inter-sectoral or inter-ministerial agreements. This encompasses legislation in all sectors, e.g., health, agriculture, transportation, environment, ports and airports, and at all applicable governmental levels, e.g., national, regional, provincial, and local, including ports and airports.

**Member States (WHO):** the 193 current Member States of the WHO, in accordance with Chapter III of the WHO constitution and currently identified on [www.who.int/ihr](http://www.who.int/ihr) and any States which may hereafter become a Member State of the WHO in accordance with the Constitution.

**monitoring:** the process of regular oversight of the implementation of activities, seeking to ensure that input deliveries, work schedules, targeted outputs and other required actions are proceeding as planned. The intermittent performance and analysis of routine measurements, aimed at detecting changes in the environment and health status of populations (*Adapted from Last JM, ed. A Dictionary of Epidemiology, 2000*). Monitoring in the context of surveillance and response refers to the routine and continuous tracking of the implementation of planned activities and of the overall performance of the surveillance and response systems. It allows for tracking of progress in implementation of planned activities, ensuring that planned targets are achieved in a timely manner, identifying problems in the system that require corrective measures, providing a basis for re-adjustment of resource allocation based on ongoing needs and priorities and ensuring responsibility and accountability for defined activities.

**national legislation** see *legislation*

**National IHR Focal Point:** the national centre, designated by each State Party, which shall be accessible at all times for communications with WHO IHR Contact Points under the IHR (2005).

**notifiable disease:** a disease that, by statutory/legal requirements, must be reported to the public health or other authority in the pertinent jurisdiction when the diagnosis is made (*Adapted from Last JM, ed. A Dictionary of Epidemiology, 2000*).

**notification:** the processes by which cases or outbreaks are brought to the knowledge of the health authorities. In the context of the IHR, notification is the official communication of a disease/health event to the WHO by the health administration of the Member State affected by the disease/health event.

**outbreak:** an epidemic limited to localized increase in the incidence of a disease, e.g., in a village, town or closed institution (*Adapted from Last JM, ed. A Dictionary of Epidemiology, 2001*).

**personal protective equipment:** specialized clothing and equipment designed to create a barrier against health and safety hazards; examples include eye protection (e.g. goggles or face shields), gloves, surgical masks and particulate respirators.

**point of entry:** a passage for international entry or exit of travellers, baggage, cargo, containers, conveyances, goods and postal parcels as well as agencies and areas providing services to them on entry or exit.

**port:** a seaport or a port on an inland body of water where ships on an international voyage arrive or depart.

**priority diseases:** diseases that are of concern for a country with set criteria for the identification of these diseases.

**public health:** the science and art of preventing disease, prolonging life and promoting health through organized efforts of society. It is a combination of sciences, skills, and beliefs that is directed to the maintenance and improvement of the health of all people through collective or social actions. The goals are to reduce the amount of disease, premature death and disease produced discomfort and disability in the population (summarized from John Last's dictionary of epidemiology).

**public health professional:** a person who practices public health.

**public health emergency (national):** public health events of national concern.

**public health emergency of international concern:** an extraordinary event which, as provided in the IHR, is determined (i) to constitute a public health risk to other States through the international spread of disease and (ii) to potentially require a coordinated international response public health risk". It implies the likelihood that an event may adversely affect the health of human populations, with an emphasis on events which may spread internationally or may present a serious and direct danger to the international community.

**public health events:** Events (see event definition) with potential to spread

**public health hazard:** a factor or exposure that may adversely affect the health of a population.

**public health risk:** the likelihood that an event that may adversely affect the health of human populations, with an emphasis in the IHR for events that may spread internationally or may present a serious and direct danger to the international community.

**published:** available in a publicly accessible domain, with a reference or URL provided.

**quarantine:** the restriction of activities and/or separation from others of suspect persons who are not ill; or of suspect baggage, containers, conveyances or goods in such a manner as to prevent the possible spread of infection or contamination.

**radiological and nuclear events:** a manifestation of a disease or an occurrence that creates a potential for a disease as result of exposure to or contamination by a radio-nuclear source



**recall:** to remove from further sale or use, or to correct, a marketed product; the process of recalling the affected product, encompassing all tiers of the affected product distribution system.

**risk:** a) *high/serious risk*: a situation in which there is a reasonable probability that the use of, or exposure to an agent or contaminated product will cause serious adverse health consequences or death; b) *moderate risk*: a situation in which the use of, or exposure to an agent or a contaminated product may cause temporary adverse health consequences or where the probability of serious adverse health consequences is remote; c) *low risk*: a situation in which the use of or exposure to an agent or a contaminated product is not likely to cause any adverse health consequences or where the probability of temporary adverse health consequences is remote.

**risk assessment:** the qualitative or quantitative estimation of the likelihood of adverse effects that may result from exposure to specified health hazards or the absence of beneficial influences (*Adapted from Last JM, ed. A Dictionary of Epidemiology, 2001*).

**risk communication:** for public health emergencies risk communication includes the range of communication capacities required through the preparedness, response and recovery phases of a serious public health event to encourage informed decision making, positive behaviour change and the maintenance of trust<sup>1</sup>.

**States Parties:** the States Parties to the IHR (2005) which are the 193 WHO Member States, and the Holy See, currently identified on [www.who.int/ihr](http://www.who.int/ihr) and any States which may hereafter accede to the IHR (2005) in accordance with the terms of the Regulations and the WHO Constitution.

**sterilization:** process by which all type of microorganisms are destroyed (*Sterilization manual for health centres, PAHO/WHO, 2009*).

**stewardship:** the WHO highlights health stewardship as a new concept with functions involving setting and enforcing the rules of the game and providing strategic direction for all the different actors involved. The concept was developed and defined as the careful and responsible management of the well-being of the population, the very essence of good government. Stewardship tasks include the generation of intelligence; formulating strategic policy direction; ensuring tools for implementation, such as, powers, incentives and sanctions; coalition building and building partnerships; ensuring a fit between policy objectives and organizational structure and culture; and ensuring accountability. (WHO Report, WHR2000).

**surveillance:** the systematic ongoing collection, collation and analysis of data and the timely dissemination of information to those who need to know so that action can be taken. (*Adapted from Last JM, ed. A Dictionary of Epidemiology, 2001*).

**trained staff:** individuals that have educational credentials and/or have received specific instruction that is applicable to a task or situation.

**urgent event:** a manifestation of a disease or an occurrence that creates a potential for disease which may have a serious public health impact and/or is of an unusual or unexpected nature, with a high potential for spread. Note: the term 'urgent' has been used in combination with other terms, e.g., infectious event or chemical event, in order to simultaneously convey both the nature of the event and the characteristics that make it 'urgent' (i.e., serious public health impact and/or unusual or unexpected nature with high potential for spread).

**verification:** the provision of information by States Parties to WHO confirming the status of an event within the territory or territories of the States Parties.

**work plan:** an activity plan developed for implementing each major function related to developing the IHR core capacities, e.g., a training plan, monitoring and evaluation plan, plan for supervisions, laboratory strengthening plan, etc.

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<sup>1</sup> WHO Communications working group report March 2009

**WHO IHR Contact Point:** the unit within WHO which shall be accessible at all times for communications with National IHR Focal Points.

**zero reporting:** the reporting of 'zero case' when no cases with a particular disease have been detected by the reporting unit. This allows the next level of the reporting system to be sure the data reported has a zero value and as opposed to being lost or omitted.

**zoonosis:** an infection or infectious disease transmissible under natural conditions from vertebrate animals to humans, e.g., rabies, plague etc.

**zoonotic event:** a manifestation of a disease in animals that creates a potential for a disease in humans as result of human exposure to the animal source.

## I. INTRODUCTION

### 1.1. INTERNATIONAL HEALTH REGULATIONS (2005) BACKGROUND

The International Health Regulations (IHR) were first adopted by the World Health Assembly (WHA) in 1969 and covered six diseases. The Regulations were amended in 1973 and then in 1981 to focus on three diseases: cholera, yellow fever and plague. In consideration of the increase in international travel and trade, and the emergence, re-emergence and international spread of disease and other threats, the WHA called for a substantial revision in 1995. The WHO Secretariat and WHO Member States embarked on this revision, extending the scope of diseases and related health events covered by the IHR to take into account all public health events (biological, chemical, radiological) that might affect human health, irrespective of the source or origin. The revised Regulations entered into force on 15 June 2007.

All States Parties are required to have or develop minimum core public health capacities to implement the IHR (2005) effectively. In accordance with articles 5 and 13, respectively, of the IHR (2005), "Each State Party shall develop, strengthen and maintain, as soon as possible but no later than five years from the entry into force of these Regulations for that State Party (i.e. by 2012), the capacity to detect, assess, notify and report events in accordance with these Regulations, as specified in Annex 1<sup>2</sup>," and "the capacity to respond promptly and effectively to public health risks and public health emergencies of international concern as set out in Annex 1."

### 1.2. PURPOSE AND SCOPE

This document proposes a framework and processes for States Parties to monitor the development of their core capacities at the national, intermediate and local community/primary response levels, in accordance with the requirements for core capacity development in Annex 1 of the IHR (2005) and Article 54 of the IHR (2005), which calls on States Parties to report on the implementation of the IHR to the WHA.

This monitoring framework provides:

- a set of 20 global indicators for monitoring the development of IHR core capacities for reporting annually to the WHA by all States Parties that is mandatory for all; and
- other indicators for monitoring the comprehensive development, strengthening, and maintenance of States Parties' IHR core capacities that are optional.

Countries are encouraged to report on all the indicators. This monitoring document is not legally binding. It does, however represent a consensus of technical expert views drawn globally from WHO Member States, technical institutions, partners, and from within WHO.

### 1.3. THE PROCESS USED TO DEVELOP THE MONITORING FRAMEWORK

The core capacities required to implement the IHR were developed in accordance with Annex 1 of the IHR (2005), and were identified through consensus of a group of technical experts. Through a similar process, appropriate indicators for monitoring IHR core capacities development were also identified. The framework incorporates current knowledge as well as concepts and models that have been successfully applied in monitoring capacity development activities. It builds particularly on experts' knowledge of current capacities of States Parties, existing regional and country strategies for capacity development and other available resources and tools. These tools also build on others used for IHR core capacity assessment by States Parties.

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<sup>2</sup> IHR 2005 article 5: <http://www.who.int/ihr/9789241596664/en/index.html>

#### **1.4. INTENDED USERS**

This document is primarily intended for use by government authorities, including public health professionals, managers, National IHR Focal Points (NFPs), authorities at Points of Entry (PoE), representatives of animal health, food safety, the environment, water safety, nuclear, radiological and chemical disciplines; as well as other sectors and stakeholders responsible for implementing the IHR. Decision makers and international development and donor agencies may also use the document to target country support for IHR implementation.

## **II. OBJECTIVES OF MONITORING THE DEVELOPMENT AND STRENGTHENING OF IHR CORE CAPACITIES**

States Parties and WHO are required to report to the WHA (article 54 of the IHR (2005)) on a yearly basis, on progress made in the implementation of the Regulations. It is important to note that the monitoring process described in this document is not intended for use as a tool to rank the performance of countries or to compare performance between countries. Rather, it is intended as a tool to assist individual countries monitor progress towards meeting the core capacity requirement of the IHR.

The objectives with respect to States Parties are:

- to enable self-assessment of the status of States Parties' core capacity development and strengthening;
- to help States Parties determine progress in the development of the core capacities and identify where improvements need to be made;
- to provide information for strategic evidence based programme planning and improvement, feedback and recommendations for decision-making;
- to provide WHO, on a yearly basis, information on the status of IHR implementation as required by the IHR (2005);
- to demonstrate both at the country level and to external stakeholders if desirable (e.g., international donors and development agencies) that the country meets the IHR core capacity requirements.

The objectives with respect to WHO are:

- to better identify specific areas for WHO and partner support to countries;
- to enable WHO to report aggregate data on States Parties' progress to the WHA on a yearly basis.

## **III. CONCEPTUAL FRAMEWORK USED FOR MONITORING IHR CORE CAPACITY STRENGTHENING**

In developing the monitoring framework, consideration has been given to the IHR article asserting that "States Parties shall utilize existing national structures and resources to meet their core capacity requirements under these Regulations, including with regard to: (a) their surveillance, reporting, notification, verification, response and collaboration activities; and (b) their activities concerning designated airports, ports and ground crossings (IHR 2005; Annex 1)."

The expert working group acknowledged that States Parties may choose or need to mobilize additional resources or re-allocate resources to develop, strengthen or maintain these capacities. The expert working group also recommended that wherever possible, data should be collected through relevant regional programmes and strategies such as the Asia-Pacific Strategy for

Emerging Diseases (APSED) in the Western Pacific Region and South-East Asia Region; the Integrated Disease Surveillance and Response strategy (IDSR) in the African region; the Emerging Infectious Diseases (EID) Strategies in the Americas and Eastern Mediterranean Regions; and strategies in the European Region.

Building on these recommendations, a checklist (see Appendix 13.1) for meeting IHR core capacity requirements was developed, grounded in the general principles of three models, notably, the Capability Maturation Index (CMI) model suggesting progressive levels of achievement, the Ripple Model describing staged capacity building, and the Potter's model advocating the strengthening of existing structures, systems and institutional capacities (see appendix 13.2 for more detailed description of these models).

For this monitoring framework, the Capability Maturation Index assists in describing how progress with capacity development is measured by achievement of meaningful levels of capabilities, which are described as foundational, moderate, strong, and advanced achievements. An underlying assumption of the checklist is that capacity building efforts can be gauged, as a system matures from reactive to proactive and managed processes and when there are distinct stages defining the transition from one level to the next. Concepts from the Ripple model were useful in demonstrating changes over time in terms of inputs, processes, outputs and outcomes, and helping in defining meaningful transitions between capability levels. Potter's model informed the selection of the building blocks for health system development within each capability level. These building blocks include institutional capacity, stewardship, leadership, appropriate structures and facilities, resources (human, material and financial), effective systems and functional processes. Taking into account these concepts, the following criteria were used in developing the indicators and their attributes:

1. Relevance to the IHR: The indicators and attribute must be relevant in advancing the objective of developing capacities to detect, assess,, report, notify, verify and respond to public health risks and emergencies of national and international concern.
2. Coverage: The indicators and attributes reflect geographical coverage at the national, intermediate, and local community/primary response levels.
3. The scope of application in relation to IHR relevant hazards, including biological (infectious, zoonotic and foodborne human pathogens) chemical, radiological and nuclear hazards.
4. The quality of the function or service: Quality refers to compliance with national and international standards or procedures relevant to the attribute.
5. The timeliness in application of functions and services.
6. The documentation and dissemination of practices.

#### **IV. ORGANIZATION OF THE MONITORING CHECKLIST**

The monitoring process reflected in this framework involves the assessment of implementation of eight core capacities through a checklist of indicators specifically developed for monitoring each core capacity, capacity development at PoE and capacity development for the four IHR-related hazards (zoonotic and food safety (biological), radiological and nuclear, and chemical). The structure of the checklist includes the following: the specific the specific component of the core capacity to be addressed, the recommended, but not required, pre-requisites for advancing the capacity, the specific indicators related to each component, and the attributes of each indicator presented as levels of capability.

**Figure 1: Example of the organization of the Monitoring Checklist for the core capacities consisting of the components, indicators, attributes and the capability levels**

Component of core Capacity	Country level Indicator	Current status of development of core capacities			
		<1 (Prerequisite)	1 (Input and process)	2 (Output and outcome)	3 (Additional achievements)
		Attribute	Attribute	Attribute	Attribute
		Attribute	Attribute		
		Attribute			

### ***The core capacities***

The core capacities (described below) are those capacities needed for detecting and responding to the specified human health hazards and events at PoE. The eight core capacities are the result of an interpretation, by a technical group of experts, of the IHR 2005 capacity requirements. They reflect the operational meaning of the capacities required to detect, assess, notify and report events, and to respond to public health risks and emergencies of national and international concern.

### ***The components***

To assess the development and strengthening of core capacities, a set of components are measured for each of the eight core capacity.

### ***The indicators***

For each component a set of one to three indicators are used to measure the status and progress in developing and strengthening the IHR core capacities.

### ***The attributes***

Each indicator represents a complex set of activities or elements; it may be difficult to measure these indicators with a simple question that requires one ‘yes’ or ‘no’ answer. Therefore, each indicator is assessed by using a group of specific elements referred to as ‘attributes’ in this document. One to three questions are derived from each attribute, and these are administered through a questionnaire.

### ***The data collection forms***

A set of questionnaires with questions addressing all the attributes associated with the core capacities and hazards will be distributed to countries each year. This questionnaire includes a section to capture information on attributes that have been partially achieved and other relevant data. These questionnaires are to be completed annually and submitted to WHO in time for reporting to the WHA, which takes place in the month of May each year.

### ***The capability levels***

Each attribute has been assigned a level of maturity, or a ‘capability level.’ Attainment of a given capability level requires that all attributes at lower levels have been completely met.

The ‘<1 level’ usually characterizes a foundational level. This level typically requires that certain critical attributes that facilitate reaching the next level of capability are in place. These attributes are considered as being prerequisites to reaching level 1. ‘Level 1’ reflects achievement of moderate levels of functioning and usually implies that inputs and processes related to the attribute are present. ‘Level 2’ reflects the transition where these inputs and processes have generated outputs and outcomes, indicating strong levels of functioning. **States Parties are**

**expected to achieve levels 1 and 2 by 2012** for all the core capacities. The IHR (2005) states that the WHO Director-General may grant an extension of this deadline for up to a maximum of four years. "Level 3" reflects advanced achievements whereby knowledge, findings, lessons learnt and experiences gained from the outputs and outcomes are evaluated, documented and shared internationally as well as within the country. These levels are detailed further under Section VI below.

## **V. AREAS TO BE MONITORED**

### ***Human health hazards***

The human health hazards include biological hazards (infectious diseases, zoonotic events, food safety events), chemical events, radiological and nuclear events.

### ***Events at PoE***

All core capacities and potential hazards apply to PoE and thus enable the effective application of health measures to prevent international spread of disease. States Parties are required to designate the international airports and ports and any ground crossings which will develop specific capacities in the application of the public health measures required to manage a variety of public health risks.

### ***The Core Capacities***

#### **Core capacity 1: National legislation, policy and financing**

The new obligations and rights for States Parties are defined in the IHR (2005). States Parties must comply with and implement the IHR starting with their entry into force in 2007. An adequate and appropriate legal framework to support and enable implementation of the IHR (2005) is required within States Parties. Legislation, regulations, administrative requirements and other governmental instruments are necessary tools that facilitate putting policy into effect. Some States may need to adopt new legislation to implement some or all State Party rights and obligations. Where new or revised legislation may not be required by the State Party, revision to some legislation, regulations, administrative requirements or other governmental instruments may still be needed to be considered to improve the performance of IHR activities. See detailed guidance on IHR implementation in national legislation at ([http://www.who.int/ihr/legal\\_issues/legislation/en/index.html](http://www.who.int/ihr/legal_issues/legislation/en/index.html)).

Clear structures and clearly defined roles and responsibilities are needed for surveillance and response at each level (i.e., local community/primary response, intermediate and national levels), preferably defined through public health policy and legislation. Policies which identify national structures and responsibilities as well as the allocation of adequate budgets are also important.

#### **Core capacity 2: Coordination and NFP communications**

The effective implementation of the IHR requires multi-sectoral, multi-disciplinary approaches through national partnerships for effective alert and response systems. Coordination of nation-wide resources, including the designation of an IHR NFP, which is a national centre for IHR communications, is a key requisite for IHR implementation. The IHR NFP should be accessible at all times to communicate with the WHO IHR Contact Points and with all relevant sectors and other stakeholders in the country. The States Parties must provide WHO with annually updated contact details for the national IHR Focal Point.

#### **Core capacity 3: Surveillance**

The IHR requires the rapid detection, prompt risk assessment, notification, and response to public health risks. A sensitive and flexible surveillance system is needed with an early warning function. Structures, roles and responsibilities for implementing the system need to be clear and preferably should be defined through public health policy and legislation. Chains of responsibility need to be clearly identified to ensure effective communications within the country, with WHO and with other countries as needed.

#### Core capacity 4: Response

Command, communications and control operations mechanisms are required to coordinate and manage outbreak operations and other public health events. Multi-disciplinary, multi-sectoral Rapid Response Teams (RRT) should be established and be available 24 hours-a-day, 7 days-a-week. They should be able to rapidly respond to events that may constitute a public health emergency of national or international concern. Appropriate case management, infection control, and decontamination are all critical components of this capacity that need to be considered.

#### Core capacity 5: Preparedness

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

#### Core capacity 6: Risk communication

Risk communications should be a multi-level and multi-faceted process which aims to help stakeholders define risks, identify hazards, assess vulnerabilities and promote community resilience, thereby promoting the capacity to cope with an unfolding public health emergency. Risk communication should include communication with the general public, families and communities about public health risks and events. Outbreak communication is an essential part of risk communication. Effective communication about risks including potential public health emergencies of international concern should take into consideration the social, religious, cultural, political and economic context in which events occur, and also involves listening to the affected populations. These communications promote uptake of appropriate control and preventive actions through community-based interventions by individuals, families and communities. Information dissemination through appropriate channels is also important.

Communication partners and stakeholders in the country need to be identified, and functional coordination and communication mechanisms established. Communication policies and procedures on the timely release of information need to be established, with the transparency in decision making that is essential for building trust between authorities, populations and partners. Emergency communications plans need to be developed, tested and updated as needed.

#### Core capacity 7: Human resources

Strengthening the public health personnel through development of appropriate knowledge, skills and competencies is critical for effective implementation of the IHR. Development of



human resources should enable sustainable practice of public health surveillance and response at all levels of the health system.

#### Core capacity 8: Laboratory

Laboratory services are part of every phase of alert and response, including detection, investigation and response, with laboratory analysis of samples performed either domestically or through collaborating centres. States Parties need to establish mechanisms for providing reliable and timely laboratory identification of infectious agents and other hazards likely to cause public health emergencies of national and international concern, including shipment of specimens to the appropriate laboratories if necessary.

### **VI. DEFINITION OF CAPABILITY LEVELS IN THE MONITORING FRAMEWORK**

For the purposes of measurement towards progress, major components of each core capacity have been defined and indicators selected. These indicators are further defined by relevant attributes. For each core capacity, four distinct capability levels have been characterized:

- Capability level <1 is the foundational or ‘prerequisite’<sup>3</sup> level which represents the critical attributes that would facilitate the implementation of the IHR. Any attribute not in place at this basic level should be addressed as a priority when strengthening IHR capacities. Attributes identified in the IHR work plan that are not implemented to date should also be considered as a priority for implementation, at this level.
- Capability level 1 is generally characterized as a moderate level with ‘inputs and processes’ needed to achieve IHR core capacities largely in place. Typically, Level 1 capability reflects a good level of organization and allocation of resources with specific units designated to carry out necessary functions, relevant guidelines, standard operating procedures (SOPs) and plans developed and disseminated at national and sub-national levels. Processes are usually in place and some actions have been taken towards implementing policies, plans, guidelines and SOPs.
- Capability level 2 attainment means the country has achieved the IHR requirements as specified for 2012. This level reflects a ‘strong’ technical capacity and a high level of performance through defined public health outputs and outcomes. Typically, implementation of relevant activities at level 2 is effective at both national and sub-national levels, and includes coverage of all hazards (biological, chemical and radiological). At this level, the application of functions, services and responses are timely and the systems and processes are documented, evaluated and updated as needed. This level delivers desired outputs and outcomes.
- Capability level 3 reflects contributions to the global achievement of IHR core capacities beyond a States Party's own borders. This level includes achieving a ‘reference model’ of capability involving the generation of information, products and tools that reflect examples of models of best practices and standards that can be adopted or shared globally<sup>4</sup>. This level reflects an advanced level of capabilities, as well as the intent of the IHR (2005) in calling upon countries with sufficient resources, expertise and capacity to provide support beyond their borders to other States Parties.

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<sup>3</sup> Prerequisite here means key elements or functions that should be in place, on which inputs and processes should build.

<sup>4</sup> In order for an attribute to be scored at level 3, a good explanation of products and tools and URLs of the relevant websites should be included in the checklist. This will further enable sharing of products and tools.

## **VII. DATA ANALYSIS AND INTERPRETATION OF FINDINGS**

For a full presentation of national capacity, countries need to assess **all** attributes included in the checklist regardless of the country's current level of maturation.

A scheme for tracking the attainment of the core capacities has been developed for country level data. This scheme enables analysis with a high level of granularity<sup>5</sup> (details) for each of the 8 core capacities, PoE, and the four hazards. The main purpose of the scheme is to enable countries to measure their status at any point in time, and assess their progress over time. This allows for identification of strengths and weaknesses as well as incremental achievements from year to year. Although the individual attributes do not necessarily have equal weight<sup>6</sup> in the assessment of capabilities, they have been assigned equal weight to simplify analysis. The analytic scheme applied is detailed below using two measures: the capability level and the attribute score.

### **7.1. The capability level**

The capability level is the highest level for which **all** attributes are present, having fulfilled the attributes for lower levels. The capability level can therefore take the value <1, 1, 2 or 3. If any level 1 attribute is missing, then the capability level is scored at <1, regardless of whether or not attributes at level 2 are present. If all attributes of level 1 are present, but at least one is missing from level 2, then the capability level is 1. If all attributes of levels 1 and 2 are present then the capability level is 2. The attributes in level 3 are not counted in the attribute score; if at least one level 3 attribute is attained in addition to all those for levels 1 and 2, then the capability level is 3. The indicators within a component, and components within a core capacity can be generated using the same general logic for a given indicator, component or core capacity.

### **7.2. The attribute score**

This score is the measurement of small steps made in progressing towards the attainment of individual core capacities, even if a higher capability level is not fully reached. The attribute score ranges from a minimum score of zero to a maximum score of one.

#### **7.2.1. Analysis and interpretation of capability level <1**

Attributes listed in level <1 are critical as foundational elements, for implementing the IHR. While facilitating implementation, these attributes are not considered as a minimum for strengthening core capacities required by IHR (2005), and are not scored. Attributes that still need to be implemented or have been partially implemented are listed at this level. This level acknowledges the ongoing efforts made towards achieving the IHR core capacities.

#### **7.2.2. Analysis and interpretation of capability levels 1 and 2: Use of the attribute score**

The attribute score is applied only to levels one and two, and it is the proportion of attributes at both levels 1 and 2 which have been attained. The numerator is the total number of attributes which have been attained out of attributes in level 1 and 2 combined, and the denominator is the sum of the level 1 and 2 attributes. For simplicity, all attributes

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<sup>5</sup> The extent to which a larger entity is subdivided.

<sup>6</sup> Developing a comprehensive weighting system that takes into account the relative importance of each attribute compared to each other attribute is impractical, as acknowledged by the expert group.

are given the same weight. Level <1 and Level 3 attributes are not counted in the attribute score. The level of achievement of an indicator is determined by the presence of attributes. If it is unknown whether a particular attribute is present or not, it is counted as absent for scoring purposes. When a State Party has attained all attributes in Level 1 and Level 2, State Parties will have met their minimum IHR core capacity obligations for 2012.

**7.3.2. Application of the attribute score to indicators, components and core capacities**

The attribute score for an indicator score is the **proportion** of the level 1 and level 2 attributes attained out of the total number of attributes for a given indicator. The attribute score for a given component is the **average** (also called the arithmetic mean) of all indicator attribute scores under this component. The attribute score for the core capacity score is the average of the sum of all the component attribute scores under this core capacity. These scores are automatically calculated by data analysis software imbedded in the internet-based tool.

This logic is applied in the below example of scoring:

WHO Region Country	Level 1	Level 2	Level 3	Attribute score	Capability Level
Core Capacity X:				0.85	<1
Component 1:				0.92	<1
Indicator 1	2/3	3/3	0/1	0.83	<1
Indicator 2	1/1	1/1	0/2	1	2
Component 2:				0.63	1
Indicator 1	2/2	0/2	0/2	0.5	1
Indicator 2	2/2	1/2	3/3	0.75	1
Component 3:				1	2
Indicator 1	3/3	4/4	1/1	1	3

A country determines that it successfully meets 2 out of 2 of the Level 1 attributes, and 1 out of 2 of the Level 2 attributes (as shown for Indicator 2, Component 2 in the above table), it would be classified as Level <1, and receive an Attribute Score of 0.75.

If it meets 2 out of 3 Level 1 attributes and 3 out of 3 of the Level 2 attributes (as shown for Indicator 1, Component 1 in the above table), it would be classified as Level <1, and receive an Attribute Score of 0.83. Successfully meeting all attributes of Levels 1 and 2 (as shown for Indicator 2, Component 1 in the above table), constitutes a Level 2 classification for that indicator, and yields an Indicator Score of 1. If Level 2 is already met, the production of global public health goods or other resources to help strengthen IHR capacities beyond one’s borders would lead to a designation of Capacity Level 3 (as shown for Indicator 1, Component 3 in the above table).

**7.2.3. Analysis and interpretation of level 3 (advanced level of achievement)**

Level 3 attributes reflect State Parties’ contribution to the international and global public health community. They should therefore be acknowledged and encouraged. When a State Party has attained all attributes in level 1 and level 2, and has attained at least one level 3 attribute, the State Party is functioning at level 3 for that core capacity. The attributes in level 3 are not counted in the attribute score.

**7. 3. States Parties' reports**

The reports for each country will give an indication of their status in implementing the IHR at a point in time as well as progress over time for each of the 8 core capacities, hazards and PoE. It also provides further details on particular components and indicators of interest. Appendix 13.4 is an example of a country overview of IHR core capacity development status.

## **VIII. OUTPUTS**

### ***8.1. Information products***

Information products include:

- Individual Detailed Country Reports (Recipients: Country IHR-NFP, WHO Country Office, WHO Regional Office, Headquarters)
- Progress Report of individual States Parties by core capacities; temporal comparison of progress within individual core capacities (Recipients: Country IHR-NFP, WHO Country Office, WHO Regional Office, Headquarters)
- WHO Regional Office Aggregate Report of countries in the specific region (Recipients: WHO Regional Office)
- Aggregate Progress Report of State Parties (Recipients: WHA, Executive Board Members, WHO)

The countries and WHO will have access to this information. Any other country specific products should be generated and disseminated by the States Parties as deemed necessary.

### ***8.2. Visualization of data***

An IHR internet-based tool provides country profiles on the status of core capacities as well as charts, graphs, and geographic information systems-based visualizations (maps).

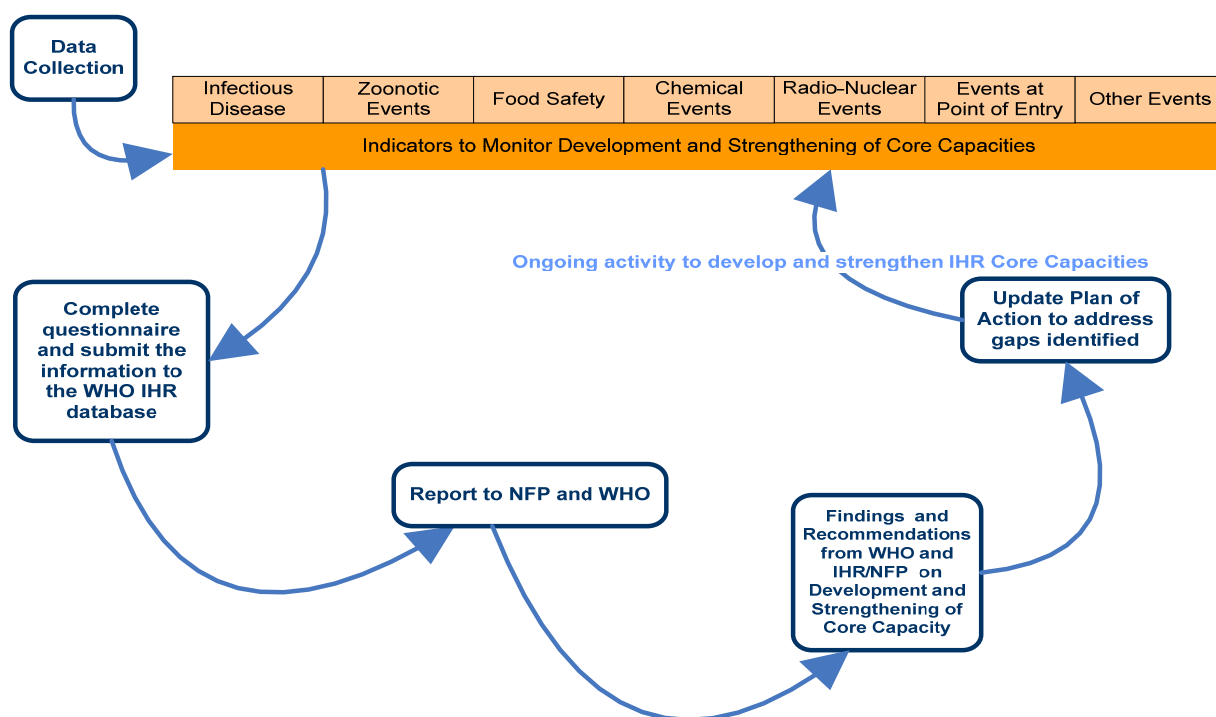
## **IX. DATA MANAGEMENT AT THE NATIONAL AND GLOBAL LEVELS**

The proposed data collection tool is the monitoring checklist (Appendix 13.1), which can be completed as an internet-based questionnaire (see example of questionnaire in Appendix 13.4). Alternately, the data collection form can be printed and submitted to WHO as a hardcopy. Data collected on the core capacities across multiple hazards will be stored in a secure database at WHO, accessible only to IHR NFPs and the WHO. The data collection tool assures country confidentiality<sup>7</sup> and provides summary results that facilitate planning and mobilization of resource. The internet-based tool could be completed by national respondents through a process led by the NFP, in consultation with the subject area experts in the country, and if requested, with the assistance of WHO regional and country offices. Findings and recommendations will be provided by WHO to the country IHR NFP and feedback by the IHR NFP to relevant stakeholders. Figure 2 summarizes the data management processes between WHO and the country.

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<sup>7</sup> Countries cannot see the data from another country.

Figure 2. The Process of Data Collection, Analysis, and Feedback to Users



WHO support may be requested to assist in interpreting the results or making recommendations for follow up actions, and to assist in efforts to strengthen specific capacities. In addition to the status report and summary of findings, countries are encouraged to interpret and use the data to take action to address country-specific priorities.

## X. DATA MANAGEMENT AT THE GLOBAL LEVEL

Data for monitoring the development and strengthening of IHR core capacities will be managed within the framework of WHO's Corporate Strategy, utilizing the WHO Open Health platform, a framework for integrating public health tools and data, and a part of the Global Health Observatory<sup>8</sup>. The Open Health platform is a suite of integrated and interoperable<sup>9</sup> tools for data collection, data management, analysis, presentation of data in diverse formats, reporting, exchange of information, and data security. The Open Health platform connects and leverages existing tools and services, to support a wide range of applications for disease surveillance, district health management, programme management, monitoring and other activities. It operates in different technological environments (e.g., internet-based portal, enterprise, stand alone).

The IHR database will be part of the confederated Open Health platform databases, which constitute the Global Health Observatory. Electronic data is housed in a secured environment with appropriate user access rights. Enhanced analysis, reporting and visualization tools are part of the application. The IHR data architectural components include databases, data

<sup>8</sup> In 2005, WHO launched the Global Observatory for eHealth; the Observatory's mission is to improve health by providing Member States with strategic information and guidance on effective practices and standards.

<sup>9</sup> Inter-operable is a property referring to the ability of diverse tools to work together.

services and IHR forms application. A structured query language (SQL) database is used to store the data.

## **XI. COUNTRY LEVEL PROCESS FOR COLLECTING DATA ON INDICATORS**

States Parties will report on indicators through an IHR NFP led process, with WHO support if requested. Countries may use one of two sets of indicators, notably the complete list of 30 indicators or the 20 mandatory indicators. Countries are encouraged to report on the complete list of indicators (Appendix 13.7) but have the option to report only the mandatory WHA indicators (20 indicators listed in section XII.). The level of achievement for each of the indicators will be determined in-country through a facilitated group process, if desired. This group could include staff responsible for developing the different core capacities and staff from the country surveillance and response systems for the various hazards as well as other relevant stakeholders who have responsibilities relevant to implementing the IHR.

### ***The workshop***

While countries can choose other methods of collecting information on the status of or progress in, developing or strengthening IHR core capacities, it is recommended that countries hold a workshop with all stakeholders to determine the levels of achievement and complete the checklist and questionnaire. It may be helpful to share the checklist and questionnaire with all stakeholders prior to the workshop (e.g., units or departments responsible for surveillance, response, PoE, chemical hazards, etc.). This would allow participants to complete a first review through an internally managed process, and information from this can be shared at the workshop. States Parties may consider requesting assistance from WHO to facilitate a workshop that could last 2-3 days (see Appendix 13.6 IHR Core Capacity Monitoring Workshop outline). This workshop should be carried out once a year, although monitoring is a continuous process. At the workshop, key informants with expert knowledge on the status of development or strengthening of the core capacities, hazards or domains (such as PoE) should be able to generate relevant discussions. Focus group discussions could also be organized around core capacities and hazards.

It is important to collect qualitative information on the strengths, weaknesses, opportunities and threats that could improve the implementation of capacity strengthening efforts.

This process could include a review of relevant documents, observations (eg., available manuals, case definitions, reports or analysis of surveillance data) which add value to the monitoring exercise. These documents may be attached in the IHR internet-based tool when completing the questionnaire. Guidance will be provided to the IHR NFP to assist in the interpretation of each question, and possible responses.

Mechanisms and systems for day-to-day monitoring of these IHR indicators will be determined by countries, to best meet their needs and remain country specific.

### ***Follow up action***

Recommendations for addressing gaps identified (see Appendix 13.6 for example of a gap analysis matrix) and developing an action plan could be additional outputs of the workshop. The answers to the questionnaire will form the basis of the States Parties Report to the WHA, and if appropriate, may be used to invite WHO support for further development. These answers should also be used for developing a plan for improving IHR core capacities in the country.

## **XII. WHA INDICATORS**

The following 20 indicators have been selected for reporting to WHA (see details of selection criteria in Appendix 13.8). These indicators have been highlighted in bold font and with an asterisk in the checklist for easy identification):

1. Laws, regulations, administrative requirements, policies or other government instruments in place are sufficient<sup>10</sup> for implementation of obligations under the IHR.
2. A mechanism is established for the coordination of relevant sectors<sup>11</sup> in the implementation of the IHR.
3. IHR NFP functions and operations are in place as defined by the IHR (2005).
4. Indicator based, routine, surveillance includes and early warning<sup>12</sup> function for the early detection of public health events.
5. Event based surveillance is established.
6. Public health emergency response mechanisms are established.
7. Infection prevention and control (IPC) is established at national and hospital levels.
8. A Multi-hazard National Public Health Emergency Preparedness and Response Plan has been developed.
9. Public health risks and resources are mapped.
10. Mechanisms for effective risk communication during a public health emergency are established.
11. Human resources are available to implement IHR core capacity requirements.
12. Laboratory services to test for priority health threats are available and accessible.
13. Laboratory biosafety and biosecurity practices are in place.
14. Effective surveillance is established at PoE<sup>13</sup>.
15. Effective response is established at PoE.
16. General obligations at PoE are fulfilled.
17. Mechanisms are established for detecting and responding to zoonoses and potential zoonoses.
18. Mechanisms are established for detecting and responding to foodborne disease and food contamination.
19. Mechanisms are established for detection, alert and response to chemical emergencies.
20. Mechanisms are established for detecting and responding to radiological and nuclear emergencies.

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<sup>10</sup> Sufficient means that they allow for fulfilment of obligations.

<sup>11</sup> Relevant sectors and disciplines include, for example, all levels of the health care system (local community, primary public health response, intermediate and national/central levels) NGOs, and ministries of agriculture (zoonosis, veterinary laboratory), transport (transport policy, civil aviation, ports and maritime transport), trade and/or industry (food safety and quality control), foreign trade (consumer protection, control of compulsory standard enforcement), communication, defence (information about migration flow), treasury or finance (customs) of the environment, the interior, home office, health and tourism.

<sup>12</sup> The early warning component detects departures from normal.

<sup>13</sup> PoE surveillance is considered as part of the national surveillance system or as otherwise defined by the country.

### XIII. APPENDICES

#### Appendix 13.1: Recommended checklist for monitoring progress of IHR core capacity development

Core capacity 1: national <sup>14</sup> legislation, policy & financing					
Component	Country level indicator	Status of development of IHR core capacities by capability level			
		<1 Prerequisites	1 Inputs and processes	2 Outputs and outcomes	3 Additional achievements
National legislation and policy	Laws, regulations, administrative requirements <sup>15</sup> , policies or other government instruments in place are sufficient <sup>16</sup> for implementation of obligations under the IHR.	Not Applicable <sup>17</sup>	Assessment <sup>18</sup> of relevant legislation, regulations, administrative requirements and other government instruments for IHR (2005) implementation has been carried out, with a report available.	Documentation that the country recommendations following assessment of relevant legislation, regulations, administrative requirements and other government instruments are implemented is available.	A compilation of national IHR-related legislation, is published <sup>19</sup> .
			Review of national policies to facilitate the implementation of IHR NFP functions and technical core capacities <sup>20</sup> .	Documentation that policies to facilitate IHR NFP core and expanded <sup>21</sup> functions and	

<sup>14</sup> Under the WHO Constitution and the IHR, it is not required that Member States ratify or sign the IHR in order to be bound by it. The WHO Constitution provides that once a new revision of the IHR is adopted by the Health Assembly, all WHO Member States are automatically legally bound by it unless the Member State affirmatively and formally opts out of the new IHR within a limited time period. The deadline to reject or make a reservation to the IHR (2005) passed on 15 December 2006. No Member State rejected or opted out of the IHR (2005); only two Member States made reservations. Accordingly, all WHO Member States are legally bound as a matter of international law to the IHR (2005).

<sup>15</sup> These include biological (infectious diseases, food safety, zoonotic etc.), chemical and radiological and nuclear event surveillance, preparedness and response.

<sup>16</sup> Sufficient means allowing for fulfilment of obligations.

<sup>17</sup> This must have been met at the time of entry into force of the IHR in 2007 because, in accordance with the WHO Constitution and IHR, all Member States have been legally bound by the IHR (2005) since 2007 when they entered into force for them.

<sup>18</sup> While an assessment and revision of national legislation for IHR implementation is not explicitly required in the IHR, it has been strongly urged by the WHA, and advised in WHO guidance documents. Some governance or legal systems may effectively require some revised or new legislation; even if not required by national law or governance, revised or new legislation concerning IHR implementation may be important for other reasons. See Section I.2 of the WHO Toolkit for IHR Implementation in National Legislation at [http://www.who.int/ihr/3\\_Part\\_I\\_Questions\\_and\\_Answers.pdf](http://www.who.int/ihr/3_Part_I_Questions_and_Answers.pdf). Moreover, as technical capacities and national governance and legal contexts have evolved since entry into force of the IHR (2005) in 2007, an assessment of this period is advisable.

<sup>19</sup> WHO does not endorse or recommend specific legislation. For information purposes, WHO publishes a compilation of national IHR-Related legislation adopted by States Parties on its web site [http://www.who.int/ihr/7\\_Part\\_III\\_Compilation\\_of\\_examples\\_of\\_national\\_legislation.pdf](http://www.who.int/ihr/7_Part_III_Compilation_of_examples_of_national_legislation.pdf).



Core capacity 1: national <sup>14</sup> legislation, policy & financing					
Component	Country level indicator	Status of development of IHR core capacities by capability level			
		<1 Prerequisites	1 Inputs and processes	2 Outputs and outcomes	3 Additional achievements
				strengthening of technical core capacities are implemented is available.	
<b>Financing</b>	Funding is available and accessible for implementing IHR and developing IHR core capacities.	Funding of IHR NFP functions is available.	Funding <sup>22</sup> is available for developing IHR core capacities <sup>23</sup> and capacities for IHR relevant hazards and PoE.	Documentation that IHR technical core capacities were strengthened at the intermediate and local levels in the last 12 months is available.	Resources are committed <sup>24</sup> to meet IHR requirements beyond the country's own borders <sup>25</sup> .

<sup>20</sup> Technical core capacities include, surveillance, response, preparedness, risk communication, human resources and laboratory.

<sup>21</sup> In addition to coordination and communications, expanded roles of the NFP include risk assessment, core capacity development, advocacy etc.

<sup>22</sup> This includes government or other sources of funding for IHR implementation.

<sup>23</sup> While the IHR require that the technically core capacities in Annex 1 be developed, they do not require particular financing or related resource mechanisms. This approach of a budget-line item or other relevant allocation was deemed to be an important option by the Expert Group, depending upon the particular context.

<sup>24</sup> Committed: resources for IHR implementation.

<sup>25</sup> Article 44 (1c).

Core capacity 2: Coordination <sup>26</sup> and NFP communications					
Component	Country level indicator	Status of development of IHR core capacities by capability level			
		<1 Prerequisites	1 Inputs and process	2 Outputs and outcomes	3 Additional achievements
<b>IHR coordination, communication and advocacy</b> <sup>27</sup>	<b>A mechanism is established for the coordination of relevant sectors<sup>28</sup> in the implementation of IHR.</b>	Coordination within relevant ministries on events that may constitute a public health event of national or international concern	Standard operating procedures (SOP) <sup>29</sup> for coordination between IHR NFP and stakeholders of relevant sectors are available.  A multi-sectoral, multidisciplinary body, committee or task force addressing IHR requirements on surveillance and response for public health emergencies of national and international concern <sup>30</sup> is in place.	Coordination mechanisms are tested and updated through the occurrence of an actual event or through exercises.	Updates are conducted among relevant stakeholders on the IHR annually.  An active IHR web site <sup>31</sup> is in place.
		National stakeholders <sup>32</sup> in the implementation of IHR listed	Roles and responsibilities of various stakeholders under the IHR defined  Plan developed to sensitize all relevant stakeholders with respect to their roles	Implementation <sup>33</sup> of plans to sensitize stakeholders on their roles and responsibilities	

<sup>26</sup> A coordination mechanism is available and functional (with terms of reference, membership from all relevant sectors, established communications channels, access to decision-makers and contacts, joint activities, meeting reports, plans and evaluations).

<sup>27</sup> This involves awareness among all relevant stakeholders of the IHR and their roles in their implementation.

<sup>28</sup> Relevant sectors and disciplines include, for example, all levels of the health care system (local community, primary public health response, intermediate and national/central levels) NGOs, and ministries of agriculture (zoonosis, veterinary laboratory), transport (transport policy, civil aviation, ports and maritime transport), trade and/or industry (food safety and quality control), foreign trade (consumer protection, control of compulsory standard enforcement), communication, defence (information about migration flow), treasury or finance (customs) of the environment, the interior, home office, health and tourism.

<sup>29</sup> SOPs should detail the terms of reference, roles and responsibilities of the IHR NFP; implementing structures; and stakeholders in the implementation of the IHR.

<sup>30</sup> Countries decide who will chair this committee but should include participation of the national IHR NFP in meetings and decision making processes.

<sup>31</sup> The website should be regularly reviewed and updated with timely information.

<sup>32</sup> Stakeholders are any groups, organizations or systems that can help affect or be affected by a public health event.

<sup>33</sup> This includes activities carried out to increase the awareness of the IHR with stakeholders including with ministries and partners.

Core capacity 2: Coordination <sup>26</sup> and NFP communications					
Component	Country level indicator	Status of development of IHR core capacities by capability level			
		<1 Prerequisites	1 Inputs and process	2 Outputs and outcomes	3 Additional achievements
			and responsibilities under the IHR.		
	<b>IHR NFP functions and operations are in place as defined by the IHR (2005).</b>	The IHR NFP <sup>34</sup> is established.	<p>Information on obligations<sup>35</sup> under the IHR are disseminated to relevant national authorities and stakeholders.</p> <p>The IHR NFP provides WHO with updated contact information on the National IHR Focal Point as well as annual confirmation.</p> <p>The NFP accessed the IHR Event Information Site at least monthly, in the past 12 months.</p>	<p>Documentation is available on the actions taken by IHR NFP and relevant stakeholders following communications with WHO.</p> <p>There has been at least one written, NFP initiated communication with WHO (consultation, notification or information sharing on a public health event) in the past 12 months.</p>	Implementation of additional roles <sup>36</sup> and responsibilities to IHR NFP functions

<sup>34</sup> The IHR NFP should have been established as of 2007, and comprise the following mandatory elements for all Member States: 24/7 availability for communications with WHO; the capacity to send urgent communications regarding IHR to WHO; information collection from all relevant sectors to send to WHO under IHR WHO (Arts. 5-12); urgent dissemination of IHR information from WHO to relevant government sectors etc.; functional communications channels with all sectors and decision-maker(s); and communications with competent authorities on health measures implemented.

<sup>35</sup> The States Parties obligations, rights and other provisions concerning SPs are included throughout the IHR and make up more than half the provisions in the IHR

<sup>36</sup> <http://www.who.int/ihr/elibrary/legal/en/index.html>.

### Core capacity 3: Surveillance

Component of core capacity	Country level indicator	Status of development of IHR core capacities by capability level			
		<1 Prerequisites	1 Inputs and process	2 Outputs and outcomes	3 Additional achievements
<b>Indicator based<sup>37</sup>, or routine, surveillance (also referred to as structured surveillance, routine surveillance, and surveillance for defined conditions</b>	<b>Indicator based, routine, surveillance<sup>38</sup> includes the early warning<sup>39</sup> function for the early detection of public health events.</b>	<p>A list of priority diseases<sup>40</sup>, conditions and case definitions for surveillance is available.</p> <p>There is a specific unit designated for surveillance of public health risks.</p>	<p>Surveillance data on epidemic prone and priority diseases are <b>analysed</b> at least weekly at national and sub-national levels.</p> <p>Baseline estimates, trends and thresholds for alert and action are defined for the local public health response level for priority diseases/events.</p> <p>Timely<sup>41</sup> reporting from <u>at least</u> 60% of all reporting units takes place.</p>	<p>Reports or other documentation that deviations or values exceeding thresholds are detected and used for action at the primary public health response level<sup>42</sup> are available.</p> <p>Timely, reporting from &gt;80% of all reporting units takes place.</p> <p>At least quarterly feedback<sup>43</sup> of surveillance results is disseminated to all levels and other relevant stakeholders.</p>	<p>Evaluation of the early warning function of routine surveillance and country experiences, findings and lessons shared with the global community is performed.</p>

<sup>37</sup> Indicator-based surveillance is the routine reporting of cases of disease, and includes notifiable disease surveillance systems, sentinel surveillance, laboratory-based surveillance etc. This routine reporting is commonly health care facility-based with reporting done on a weekly or monthly basis.

<sup>38</sup> Surveillance is the systematic ongoing collection, collation and analysis of data for public health purposes and the timely dissemination to those who need to know for public health action. Surveillance functions should be carried out according to international standards, with well defined roles, established chains of command and communications, nationally and internationally, relevant standards, guidelines and SOP, appropriate data management and analysis and regular feedback and supervision.

<sup>39</sup> An early warning component detects departures from what is normal.

<sup>40</sup> Priority diseases are those with the highest public health significance as defined by the country; they should include the diseases in Annex 2 of the IHR

<sup>41</sup> As defined by country standards

<sup>42</sup> E.g., documented investigations of an actual disease situation other than acute flaccid paralysis.

<sup>43</sup> E.g. Epi bulletins, electronic summaries, newsletters, surveillance reports, etc.

### Core capacity 3: Surveillance

Component of core capacity	Country level indicator	Status of development of IHR core capacities by capability level			
		<1 Prerequisites	1 Inputs and process	2 Outputs and outcomes	3 Additional achievements
<b>Event based surveillance<sup>44</sup></b>	<b>Event based surveillance<sup>45</sup> is established.</b>	<p>Information sources<sup>46</sup> for public health events<sup>47</sup> and risks are identified.</p> <p>A local community level/primary response level reporting strategy has been developed.</p>	<p>Unit(s) designated for event-based surveillance that may be part of existing routine surveillance system.</p> <p>SOPs and guidelines for event capture, reporting, confirmation, verification, assessment and notification are developed and disseminated</p> <p>System in place at national and/or sub-national levels for capturing and registering public health events from a variety of sources including veterinary, media (print, broadcast, community, electronic, internet etc.).</p>	<p>SOPs and guidelines for event capture, reporting, confirmation, verification, assessment and notification are implemented, reviewed and updated as needed</p> <p>Active engagement and sensitization of community leaders, networks, health volunteers, and other community members, in the detection and reporting of unusual health events as required</p> <p>Local community reporting evaluated and results shared with the respective communities and stakeholders</p>	<p>Country experiences and findings on implementation of event-based surveillance, and the integration with indicator based surveillance, is documented and can be shared with the global community.</p>

<sup>44</sup> Event-based surveillance is the organized and rapid capture of information about events that are a potential risk to public health. This information can be rumours and other ad-hoc reports transmitted through formal channels (i.e. established routine reporting systems) and informal channels (i.e. media, health workers and NGO reports).

<sup>45</sup> Indicator-based and event-based surveillance are not necessarily separate surveillance systems and both contribute to the early warning function critical for early detection and prompt response. Although the surveillance functions described are often common to both types of surveillance, the expert working group proposed that the two strategies be separated in this document. This would help countries better identify areas to strengthen in implementing this newer concept, particularly since routine surveillance (IBS) is already well established in many countries

<sup>46</sup> Sources of information can include some or all of the following: **Health sources** include poison centres, veterinary and animal health sources, environmental health services, pharmacovigilance centres, quarantine service, sanitation agencies and associated laboratories (water, food, environmental monitoring, etc.), food safety authorities/agencies, health inspection agencies (restaurants, hotels, buildings), water supply companies and competent authorities at PoE. **Non-Health sources** include radiation protection offices, radiological monitoring services, nuclear regulatory bodies, consumer protection groups, political sources, NGOs, embassies, the military, prisons, media, published sources (internet, academic press) and community based sources. **Sources that reflect the impact of health events** include pharmacies, to monitor drug consumption patterns; schools, to monitor student absenteeism; and metrological centres, to monitor effects of weather changes (rainfall, temperatures).

<sup>47</sup> This includes events related to the occurrence of disease in humans, such as clustered cases of a disease or syndromes, unusual disease patterns or unexpected deaths as recognized by health workers and other key informants in the country; and events related to potential exposure for humans.

### Core capacity 3: Surveillance

Component of core capacity	Country level indicator	Status of development of IHR core capacities by capability level			
		<1 Prerequisites	1 Inputs and process	2 Outputs and outcomes	3 Additional achievements
			<p>Reported events contain essential information specified in the IHR<sup>48</sup>. A risk assessment<sup>49</sup> has been carried out within 48 hours of <b>reporting</b> to the national level for &gt;60% of events identified as urgent<sup>50</sup> in the last 12 months.</p> <p>The IHR NFP responds to &gt;60% of <b>verification requests from WHO</b> within 24 hours (Art 10).</p>	<p>A risk assessment has been carried out within 48 hours of <b>reporting</b> to the national level for 100% of events identified as urgent in the last 12 months.</p> <p>The IHR NFP responds to 100% of <b>verification requests from WHO</b> within 24 hours (Art 10).</p>	
		The decision instrument in Annex 2 of the IHR (2005) is used to notify WHO.	100% of events that meet criteria for notification under Annex 2 of IHR have been notified by NFP to WHO (Annex 1A Art 6b) within 24 hours of conducting risk assessments over the last 12 months.	The use of the decision instrument is reviewed and procedures for decision making are updated on the basis of lessons learnt.	Country experiences and findings in notification and use of Annex 2 of the IHR are documented and shared globally.
<b>Surveillance overview<sup>51</sup> of information on IHR related</b>	A coordinated mechanism is in place for collecting and integrating	Roles and responsibilities of various ministries in contributing relevant surveillance data on	A communication mechanism is established for sharing surveillance data with relevant authorities across the levels of the health system and between sectors and partners.	A mechanism <sup>52</sup> is established for maintaining a comprehensive surveillance overview of all relevant urgent health risks.	An up to date nationwide overview on surveillance of all IHR relevant hazards is available and published annually.

<sup>48</sup> IHR essential information (annex 1A art 4b) includes the following: clinical descriptions, laboratory results, sources and type of risk, numbers of human cases and death and, conditions affecting the spread of the disease and the health measures employed.

<sup>49</sup> Risk assessment can be carried out at various levels (national or sub-national) depending on national structure.

<sup>50</sup> For the purposes of Annex 1, the criteria for urgent events include serious public health impact and/or unusual or unexpected nature with high potential for spread.

<sup>51</sup> Cross-reference with coordination (core capacity 2).

<sup>52</sup> Fully functional national comprehensive surveillance for monitoring and assessing public health risks/emergencies (including chemical, biological radiological, food safety, zoonosis) that meet IHR (2005) requirements, with roles that are well defined, established chains of command and national and international communication with partners, including WHO.

**Core capacity 3: Surveillance**

Component of core capacity	Country level indicator	Status of development of IHR core capacities by capability level			
		<1 Prerequisites	1 Inputs and process	2 Outputs and outcomes	3 Additional achievements
hazards <sup>52</sup> (situation awareness)	information from sectors relevant to the IHR.	IHR relevant hazards are defined.			Arrangements with neighbouring countries to share data on surveillance and control of public health events that might be of international concern are made.

<sup>53</sup> A designated responsible unit that functions to maintain situation awareness and prioritize all relevant health events and risk related information from all sectors and from indicator-based and event-based surveillance.

**Core capacity 4: Response**

Component of core capacity	Country level indicator	Status of development of IHR core capacities by capability level			
		<1 Prerequisites	1 Inputs and Process	2 Outputs and outcomes	3 Additional achievements
<b>Rapid response capacity</b>	<b>Public health emergency response mechanisms are established.</b> <sup>54</sup>	Resources for rapid response during outbreaks of national or international concern are accessible.	Public health emergency response management procedures are established for command, communications and control during emergency response operations.	A functional, dedicated command and control operations centre.  Emergency response management procedures are evaluated after a real or simulated public health response.	
			Rapid Response Teams <sup>55</sup> (RRTs) are available.  A roster of trained <sup>56</sup> RRT members is available and SOPs for their deployment are available.  Multidisciplinary RRTs are deployed <sup>57</sup> within 48 hrs from the time when the decision to respond is made.  Preliminary written reports on investigation and control measures are submitted by RRTs to relevant authorities within one week of investigation.	RRTs are mobilized for actual events or simulation exercises are conducted at least once a year at the relevant levels.  Evaluations of response, including for timeliness <sup>58</sup> and quality, are systematically carried out and response procedures are updated as necessary.	Assistance is offered to other States Parties for developing their response capacities or implementing control measures.
<b>Case management</b>	Case management procedures are available	Case management guidelines are available for	Case management guidelines have been developed and are available at relevant health system levels for priority diseases <sup>60</sup> and IHR	Patient referral and transportation <sup>63</sup> systems are implemented according to national or international guidelines.	Country experiences on case management of major biological, chemical,

<sup>54</sup> This includes emergencies relevant to the IHR.

<sup>55</sup> RRT: a group of trained persons that is ready to respond quickly to an event. The composition of the team is determined by the country concerned.

<sup>56</sup> RRT trained in outbreak investigation and control, infection control and decontamination, social mobilization and communication, specimen collection and transportation, chemical event investigation and management and if applicable, radiation event investigation and management.

<sup>57</sup> Note: some hazard responses may require more timely response than 48 hours.

<sup>58</sup> The amount of time considered here is the time between detection of the event and initiation of a recommended response.



### Core capacity 4: Response

Component of core capacity	Country level indicator	Status of development of IHR core capacities by capability level			
		<1 Prerequisites	1 Inputs and Process	2 Outputs and outcomes	3 Additional achievements
	established for IHR relevant hazards <sup>59</sup> .	priority epidemic prone diseases.	relevant hazards <sup>61</sup> . SOPs are available for the management and transport of potentially infectious patients in the community and at PoE <sup>62</sup> .	Appropriate staff (as defined by the country) is trained in management of relevant IHR related emergencies.	radiological and nuclear contamination events are published and shared with the global community.
<b>Infection control<sup>64</sup></b>	<b>Infection prevention and control (IPC) is established at national and hospital levels.</b>	Responsibility is assigned for surveillance of health-care associated infections and anti-microbial resistance.	A national IPC policy, or guidelines and operational plan, is available.  SOPs, guidelines and protocols for IPC are available to all hospitals.  National coordination with defined strategies, objectives, priorities and nature of data for the surveillance of relevant events (such as healthcare-associated infections, infections of potential public health concern) is set-up.  All tertiary hospitals have designated area(s) and defined procedures for the care of patients requiring specific isolation precautions <sup>65</sup>	Infection control plans are implemented nationwide, with documented review of implementation.  Management of patients with highly infectious diseases meets established IPC standards.  Surveillance in high risk groups <sup>66</sup> to promptly detect and investigate clusters of infectious disease patients, as well as unexplained illnesses in health workers is established.  A monitoring system for antimicrobial	Compliance with infection control measures and effectiveness is regularly evaluated and published.  A national programme <sup>67</sup> for protecting health care workers is implemented.

<sup>59</sup> Hazards such as zoonotic diseases, food safety events, chemical events, radiological and nuclear etc.

<sup>60</sup> Priority diseases should include IHR specified diseases in Annex 2 (IHR 2005): smallpox, poliomyelitis due to wild-type poliovirus, human influenza caused by a new subtype, severe acute respiratory syndrome (SARS) etc.

<sup>61</sup> Nuclear, chemical, zoonotic and food safety.

<sup>62</sup> As specified in Article 57, 2(d) IHR (2005).

<sup>63</sup> Annex 1B, 1(b) IHR (2005).

<sup>64</sup> This refers to an institutionalized national IPC authority with a dedicated staff, budget, objectives, scope and functions. Healthcare facilities are needed to elaborate and implement local policies in accordance with national IPC programme and standards. Comprehensive information on infection control can be found in the WHO document "Core components for infection prevention and control programmes" at [http://www.who.int/csr/resources/publications/WHO\\_HSE\\_EPR\\_2009\\_1/en/](http://www.who.int/csr/resources/publications/WHO_HSE_EPR_2009_1/en/).

<sup>65</sup> Isolation precautions include: a designated area (e.g., a single room or ward), an adequate number of staff and appropriate equipment for management of the risk of infection.

### Core capacity 4: Response

Component of core capacity	Country level indicator	Status of development of IHR core capacities by capability level			
		<1 Prerequisites	1 Inputs and Process	2 Outputs and outcomes	3 Additional achievements
			<p>according to national or international guidelines.</p> <p>Norms are defined or guidelines developed for protecting health care workers.</p>	<p>resistance has been implemented and data on magnitude and trends are available.</p> <p>Qualified IPC professionals are at least in place at all tertiary hospitals.</p>	
<b>Disinfection, decontamination and vector control<sup>68</sup></b>	A programme for disinfection, decontamination and vector <sup>69</sup> control is established.	An up-to-date inventory of essential materials for disinfection and vector control <sup>70</sup> has been done.	Essential materials for disinfection <sup>71</sup> , decontamination and vector control are available at relevant sites.	<p>Decontamination capabilities<sup>72</sup> are established for chemical decontamination to address main chemical risks.</p> <p>Decontamination capabilities are established for radiological and nuclear hazards as relevant to the country's situation.</p>	Assistance is offered to other States Parties for developing their disinfection and decontamination capacities.

<sup>66</sup> High risk groups include intensive care unit patients, neonates, immunosuppressed patients, emergency department patients with unusual infections, etc.

<sup>67</sup> This includes preventive measures and treatment offered to health care workers, e.g., influenza or hepatitis vaccine programmes for health care workers and personal protective equipment.

<sup>68</sup> This capacity is understood as actions taken during response at sites.

<sup>69</sup> As defined in the IHR (2005), vector means an insect or other animal which normally transports an infectious agent that constitutes a public health risk.

<sup>70</sup> Note that for small countries this might not be necessary.

<sup>71</sup> Personal protective equipment, disinfectants etc.

<sup>72</sup> Decontamination capability includes inspecting, inventorying, storing and purchasing personal protective equipment when needed, upkeep and maintenance of the decontamination equipment, maintenance of training records, ongoing training, recruitment of new team members, maintenance of exposure records etc.

**Core capacity 5: Preparedness<sup>73</sup>**

Component of core capacity	Country level indicator	Status of development of IHR core capacities by capability level			
		<1 Prerequisites	1 Inputs and process	2 Outputs and outcomes	3 Additional achievements
<b>Public health emergency preparedness and response</b>	<b>Multi-hazard National Public Health Emergency Preparedness and Response Plan is developed.</b>	Assessment of core capacities for IHR implementation has been conducted (Annex 1A Article 2) and the report shared with relevant national stakeholders.	National public health emergency response plans for IHR related hazards and PoE have been developed (Annex 1A, Article 6g).	The national public health emergency response plan is tested in actual emergency or simulation situations and updated as needed.	Country experiences and findings on emergency response and mobilizing surge capacity, have been documented and shared with the global community.
		A national plan to meet the IHR core capacity requirements has been developed (Annex 1A Article 2).	A policy, strategy or national plan <sup>74</sup> for surge capacity <sup>75</sup> to respond to public health emergencies of national and international concern is available.	Surge capacity is tested either by responding to a public health event, or during an exercise and documentation is adequate.	

<sup>73</sup> Preparedness for development of public health emergency systems including implementation of the IHR

<sup>74</sup> This may be a component of the overall preparedness and response plan.

<sup>75</sup> Surge capacity: the ability of the health system to expand beyond normal operations to meet a sudden increased demand. It includes funds, trained staff, equipment, drugs, supplies, logistics and specialized resources; and the capacity for triage, referral, transport, quarantine and decontamination.

**Core capacity 5: Preparedness<sup>73</sup>**

Component of core capacity	Country level indicator	Status of development of IHR core capacities by capability level			
		<1 Prerequisites	1 Inputs and process	2 Outputs and outcomes	3 Additional achievements
<b>Risk and resource management for IHR preparedness</b>	<b>Public health risks and resources are mapped.</b>	A directory of experts in health and other sectors to support a response to the IHR related hazards is available.	A national risk assessment <sup>76</sup> has been conducted to identify the most likely sources of ‘urgent public health event’ and vulnerable populations.  National resources have been assessed <sup>77</sup> to address priority risks.	Mapping of major hazard sites or facilities which could be the source of a chemical, radiological, nuclear or biological public health emergency of international concern is available.  Experts have been mobilized from multiple disciplines/sectors in response to an actual public health event or during a simulation exercise in the last 12 months.	The national risk profile and resources are assessed regularly over time (e.g. yearly) to accommodate emerging threats.
			National plan for management and distribution <sup>78</sup> of stockpiles in place	Stockpile management system tested through a real or simulated exercise and updated  Stockpiles (critical stock levels) for responding to priority biological, chemical and radiological events and other emergencies are available and accessible at all times	Contributes to international stockpiles

<sup>76</sup> E.g. various hazards, disease outbreaks patterns, local disease transmission patterns, contaminated food or water sources, etc.

<sup>77</sup> I.e. mapping of local infrastructure, PoE, health facilities, major equipment and supplies, staff, funding sources, experts, equipment, laboratories, institutions, NGOs to assist with community-level work, and transport.

<sup>78</sup> This includes the rotation of stocks in respect to their expiry dates, proper storage conditions for various drugs, logistic requirements and distribution to pharmacies and hospitals around the country.

### Core capacity 6: Risk communication

Component of core capacity	Country level indicator	Status of development of IHR core capacities by capability level			
		<1 Prerequisites	1 Inputs and process	2 Outputs and outcomes	3 Additional achievements
<b>Policy and procedures for public communications</b>	<b>Mechanisms for effective risk communication during a public health emergency are established.</b>	Risk communication partners and stakeholders are identified.	<p>A unit responsible for coordination of public communications<sup>79</sup> during a public health event is designated, with roles and responsibilities of the stakeholders<sup>80</sup> clearly defined.</p> <p>A risk communication plan<sup>81</sup> including social mobilization of communities has been developed.</p> <p>Policies, SOPs or guidelines are disseminated on the clearance<sup>82</sup> and release of information during a public health event.</p>	<p>Policies or guidelines are available to support community-based risk communication interventions during public health emergencies.</p> <p>A risk communication plan has been implemented in &gt;50% of public health events of national or potential international concern in the last 12 months.</p> <p>Evaluation of the public health communication after emergencies, including for timeliness, transparency<sup>83</sup> and appropriateness of communications, is carried out and SOPs updated as needed.</p>	Results of evaluations of risk communications efforts during a public health emergency have been shared with the global community.
			<p>Populations and partners have been informed of a real or potential risk within 24 hours following confirmation in &gt;30% of public health emergencies in the last 12 months.</p> <p>A regularly updated information source is accessible to media and the public for information dissemination<sup>84</sup>.</p>	<p>Populations and partners have been informed of a real or potential risk within 24 hours following confirmation in &gt;50% of PH emergencies in the last 12 months.</p>	

<sup>79</sup> Including the designated spokesperson(s) and alternates identified.

<sup>80</sup> Stakeholders are any groups, organizations or systems that can help affect or be affected by communications during a public health event.

<sup>81</sup> The risk communication plan includes an inventory of communication partners, focal points and stakeholders and their capacities in the country.

<sup>82</sup> Procedures in place for clearance by scientific, technical and communications staff before information is released during public health events.

<sup>83</sup> Transparency implies openness, communication and accountability, i.e., all information about public health risk is open and freely available.

<sup>84</sup> This includes, as appropriate, web sites/webpages (national level), community meetings, national radio broadcasts etc.

**Core capacity 6: Risk communication**

Component of core capacity	Country level indicator	Status of development of IHR core capacities by capability level			
		<1 Prerequisites	1 Inputs and process	2 Outputs and outcomes	3 Additional achievements
			Accessible and relevant information, education and communications materials <sup>85</sup> tailored to the needs of the population are available.		

<sup>85</sup> The views and perceptions of individuals, partners and communities affected by public health emergencies should be systematically taken into account. This includes vulnerable, minority, disadvantaged or other at-risk populations.

**Core capacity 7: Human resources**

Component of core capacity	Country level indicator	Status of development of IHR core capacities by capability level			
		<1 Prerequisites	1 Inputs and process	2 Outputs and outcomes	3 Additional achievements
<b>Human resource capacity</b>	<b>Human resources are available to implement IHR core capacity requirements.</b>	A responsible unit has been identified to assess human resource capacity to meet country IHR requirements.	<p>Critical gaps in existing human resources (numbers and competencies) to meet IHR requirements are identified.</p> <p>A training needs assessment<sup>86</sup> has been carried out and plan to meet IHR requirements has been developed.</p>	<p>Workforce development plans and funding for the implementation of the IHR approved by responsible authorities</p> <p>Targets are achieved for meeting workforce numbers and skills consistent with milestones set in the training development plan.</p> <p>A strategy is developed for the country to access field epidemiology training (one year or more) in-country, regionally or internationally.</p> <p>Strengthening of the workforce is documented when tested by an urgent public health event or simulation exercise.</p>	<p>A specific programme and budget is allocated to train workforce for IHR-relevant hazards.</p> <p>Training opportunities or resources are used for training staff from other countries.</p>

<sup>86</sup> Assessment of training needs includes circulating a questionnaire, a consensus of experts or systematic review.

## Core capacity 8: Laboratory<sup>87</sup>

Component of core capacity	Country level indicator	Current status of implementation of core capacities			
		<1 Prerequisites	1 Inputs and process	2 Outputs and outcomes	3 Additional achievements
<b>Laboratory diagnostic and confirmation capacity</b>	<b>Laboratory services are available and accessible to test for priority health threats.</b>	<p>Policy to ensure quality of laboratory diagnostic capacity (e.g., licensing, accreditation etc.).</p>	<p>An updated and accessible inventory of public and private laboratories<sup>88</sup> and their relevant diagnostic capacity is available.</p> <p>National reference laboratory(ies) (NRL) designated and list of NRL disseminated to relevant stakeholders.</p> <p>Access to diagnostic services<sup>89</sup> for priority diseases, for pathogens listed in Annex 2 of the IHR (2005), and for public health threats including hazardous substances<sup>90</sup>.</p> <p>National or international external quality assessment schemes are implemented for diagnostic laboratories in the country for major public health disciplines<sup>91</sup>.</p>	<p>Network of national and international laboratories established to meet diagnostic and confirmatory laboratory requirements and support outbreak investigations for events specified in Annex 2 of IHR (2005).</p> <p>Greater than 10 non-AFP hazardous specimens per year referred to <b>national</b> or international reference laboratories for examination.</p> <p>Laboratory test results are received from the diagnostic laboratory in a timely<sup>92</sup> manner to inform decision-making and actions.</p>	<p>All diagnostic laboratories are certified or accredited according to international standards<sup>93</sup>, or to national standards adapted from international standards.</p> <p>A national system is in place for reliable and safe detection of MDR and XDR<sup>94</sup> <i>M. tuberculosis</i>, with quality assurance results available for peer review and dissemination.</p> <p>Country has one or more National Reference Laboratory contributing to diagnostic services in another country.</p>

<sup>87</sup> IHR (2005) Annex 1, paragraph 6(b): “Public health response to provide support through specialized staff, laboratory analysis of samples (domestically or through collaborating centres) and logistical assistance (e.g. equipment, supplies and transport.”

<sup>88</sup> This should include their corresponding capacities.

<sup>89</sup> Access through national laboratory or through written agreement with international laboratory(ies).

<sup>90</sup> E.g., toxins, chemical and radiological.

<sup>91</sup> E.g., virology, haematology, immunology, microbiology, etc.

<sup>92</sup> Timeliness depends on the disease and should be in accordance with national standards/guidelines.

<sup>93</sup> International standards: ISO 9001, ISO 17025, ISO 15189, WHO standards for polio, measles, etc.

<sup>94</sup> MDR-TB is multi-drug resistant tuberculosis. XDR-TB is extensively drug-resistant tuberculosis.



**Core capacity 8: Laboratory<sup>87</sup>**

Component of core capacity	Country level indicator	Current status of implementation of core capacities			
		<1 Prerequisites	1 Inputs and process	2 Outputs and outcomes	3 Additional achievements
	Influenza surveillance is established <sup>95</sup> .	Access to influenza testing, nationally or internationally	Procedures are in place for rapid virological assessment of clusters of cases with severe acute respiratory illness of unknown cause, or individual cases when epidemiologic risk is high.	Participates in Global Influenza Surveillance Program, with regular submission of viral isolates for analysis	National data/maps of circulating strains of influenza are available and shared with the global community.
<b>Specimen collection and transport</b>	System for collection, packaging and transport of clinical specimens	Sample collection and transportation kits are available.	National SOPs compatible with international guidelines are available for the collection and transport, of clinical specimens.	Viable clinical specimens from investigation of urgent public health events <sup>96</sup> are delivered to appropriate laboratory within 48 hours of collection for testing or transport to international reference laboratory.	At least one hazardous specimen per year is shipped internationally to a collaborating laboratory as part of an investigation or exercise.
			Sample collection and transport kits are pre-positioned at appropriate levels for immediate mobilization during a public health event.  Staff (including RRT members) are trained in specimen collection and transport.	Staff at national level are trained for the safe shipment of infectious substances according to international standards (ICAO/IATA <sup>97</sup> ).  Documentation the processes used when investigating an urgent public health event for shipment of infectious substances meet IATA/ICAO standards.	
<b>Laboratory biosafety and Biosecurity</b>	<b>Laboratory biosafety and Biosecurity practices are in place.</b>	Biosafety guidelines are accessible to Individual laboratories	Regulations, policies <sup>98</sup> or strategies for laboratory biosafety have been developed.  A responsible entity <sup>99</sup> is designated for laboratory biosafety and biosecurity.	Biosafety procedures are implemented and regularly monitored.  Biorisk <sup>102</sup> assessment is conducted in laboratories to guide and update	Country experience and findings related to biosafety have been evaluated and reports shared with the global community.

<sup>95</sup> Influenza surveillance here is used as a proxy for diseases in Annex 2 of the IHR.

<sup>96</sup> I.e, greater than 80%.

<sup>97</sup> International Civil Aviation Organization (ICAO); International Air Transport Association (IATA).

<sup>98</sup> This includes local policies or regulations for the protection of laboratory workers (e.g., immunization, emergency antiviral therapy, specific measures for pregnant women, protective personal equipment use, etc.) and guidelines for the management and disposal of hazardous substances.

<sup>99</sup> This could be an expert group, committee or institution.

**Core capacity 8: Laboratory<sup>87</sup>**

Component of core capacity	Country level indicator	Current status of implementation of core capacities			
		<1 Prerequisites	1 Inputs and process	2 Outputs and outcomes	3 Additional achievements
			<p>Biosafety guidelines, manuals or SOPs are disseminated to laboratories.</p> <p>Relevant staff are trained on biosafety guidelines.</p> <p>National classification of microorganisms by risk group<sup>100</sup> is completed.</p> <p>An institution or person<sup>101</sup> responsible for inspection (includes certification of biosafety equipment) of laboratories for compliance with biosafety requirements is identified.</p>	<p>biosafety regulations, procedures and practices, including for decontamination and management of infectious waste.</p> <p>Diagnostic laboratories<sup>103</sup> are designated and authorized or certified as BSL 2 or above for relevant levels of the health care system.</p>	
<b>Laboratory based surveillance</b>	Laboratory data management and reporting is established.	Priority pathogens for laboratory based surveillance are identified.	Standard reporting procedures between laboratory services and the surveillance department, including timeliness requirements by class of pathogen, are established.	<p>SOPs for data management, data security and data quality exist at all diagnostic laboratories.</p> <p>Analysis of laboratory data with reports disseminated to relevant stakeholders<sup>104</sup></p>	Country experience and findings regarding laboratory based surveillance are published and disseminated to the global community.

<sup>100</sup> This refers to classification by pathogenicity, mode of transmission local availability of effective measures and local availability of effective treatment. Risk Group 1 (no or low individual or community risk): a microorganism that is unlikely to cause human or animal disease. Risk Group 2 (moderate individual risk, low community risk): a pathogen that can cause human or animal disease but is unlikely to be a serious hazard to laboratory workers, the community, livestock or the environment. Laboratory exposures may cause serious infection, but effective treatment and preventive measures are available and the risk of spread of infection is limited. Risk Group 3 (high individual risk, low community risk): a pathogen that usually causes serious human or animal disease but does not ordinarily spread from one infected individual to another. Effective treatment and preventive measures are available. Risk Group 4 (high individual and community risk): a pathogen that usually causes serious human or animal disease and that can be readily transmitted from one individual to another, directly or indirectly. Effective treatment and preventive measures are not usually available (Laboratory biosafety manual, 3rd ed., WHO)

<sup>101</sup> With allocated resources, SOPs etc.

<sup>102</sup> Biorisk are risks posed by the handling, manipulation, storage, and disposal of infectious substances.

<sup>103</sup> Laboratories here could be public health, clinical or hospital based.

<sup>104</sup> Stakeholders include the ministry of health's epidemiological department, national reference laboratories and private laboratories, as applicable.

## Points of Entry

Component of PoE	Country level indicator	Status of development of IHR core capacities requirements at PoE by capability level			
		<1 Prerequisites	1 Inputs and process	2 Outputs and outcomes	3 Additional achievements
<b>General obligations required at PoE<sup>105</sup></b>	<b>General obligations at PoE are fulfilled.</b>	A review meeting (or other method as appropriate) conducted on designating PoE has been held.	<p>A ‘competent authority’ is designated for each PoE as specified in Article 19B of the IHR (2005); its functions are specified in Article 22 No.1.</p> <p>Ports/airports are designated for development of capacities specified in Annex 1 (i.e. as specified in Article 20, No.1).</p> <p>A list of Ports authorized to offer certificates relating to ship sanitation has been sent to WHO (as specified in Article 20, No.3).</p> <p>&gt;50% of designated <b>Airports</b> have a competent authority</p> <p>&gt;50% of designated <b>Airports</b> have been assessed<sup>106</sup></p> <p>&gt;50% of designated <b>Ports</b> have a competent authority</p> <p>&gt;50% of designated <b>Ports</b> have been assessed</p>	<p>100% of designated <b>Airports</b> have a competent authority</p> <p>100% of designated <b>Airports</b> have been assessed</p> <p>100% of designated <b>Ports</b> have a competent authority</p> <p>100% of designated <b>Ports</b> have been assessed</p>	Country experiences and findings on the process of meeting PoE general obligations are documented.
<b>Legislation and policy<sup>107</sup>, technical</b>	Compliance with the IHR (2005) for PoE and for Health and	Updated health documents <sup>109</sup>	Documentation that relevant legislation, regulations, administrative requirements, and other governmental instruments have been	Recommendations are implemented following assessment of relevant legislation, regulations and	Country experiences and findings on implementation of

<sup>105</sup> Indicate the number of designated Airports, Ports and Ground crossings in the comment box

<sup>106</sup> Assess ability to meet the minimum requirements described Annex 1a of the IHR (2005)

<sup>107</sup> Note that this is cross referenced with CC1, and these attributes should also be considered under CC1

### Points of Entry

Component of PoE	Country level indicator	Status of development of IHR core capacities requirements at PoE by capability level			
		<1 Prerequisites	1 Inputs and process	2 Outputs and outcomes	3 Additional achievements
<b>guidance and procedures</b> <sup>108</sup>	technical Documents	as specified in the IHR (2005)	assessed for PoE is available.  Technical and operational guidance for PoE is available and disseminated to relevant stakeholders.	administrative requirements for PoE.  Updated IHR (2005) health documents are implemented.  Procedures, and technical guidelines and SOPs are implemented and updated as needed.	legislation, regulation, administrative requirements, and other governmental instruments is documented.
<b>Coordination</b> <sup>110</sup>	Coordination in the prevention, detection, and response to public health events at POE is established.	A list of sectors and agencies for coordination at PoE is available.	Procedures <sup>111</sup> for coordination and communication between the IHR NFP and the PoE competent authority, and with all relevant sectors, are established.	Procedures for coordination and communication between the IHR NFP and the PoE competent authority, and with all relevant sectors are tested and updated.  Procedures for communication <sup>112</sup> between the PoE competent authority and other countries' PoE competent authorities are tested and updated as needed.	Effectiveness of coordination between relevant stakeholders for PoE evaluated and experiences is shared with the global community.
<b>Surveillance</b>	<b>Effective</b>	Priority	Surveillance information at designated PoE is	Designated PoE have the capacity to	A review of surveillance

<sup>108</sup> This includes for the detection, reporting and response to event related to travel and transport; the application of public health measures at PoE recommended by WHO (e.g. exit/entry screening, isolation, quarantine, contact training, etc) and the application of other public health measures that could affect international travel and transport.

<sup>109</sup> International certificate of vaccination or prophylaxis, the Ship Sanitation Control Certificate, the Maritime declaration of Health, and the health part of the Aircraft General Declaration.

<sup>110</sup> Note that this is cross-referenced with core capacity 2, and these attributes should also be considered under core capacity 2.

<sup>111</sup> Procedures include SOPs or protocols, for example.

<sup>112</sup> Article 27 2(a) IHR (2005): “the competent authority shall, at the time of departure, inform the competent authority for the next known point of entry of the type of information referred to under subparagraph (b); and (b) in the case of a ship, the evidence found and the control measures required shall be noted in the Ship Sanitation Control Certificate.”

## Points of Entry

Component of PoE	Country level indicator	Status of development of IHR core capacities requirements at PoE by capability level			
		<1 Prerequisites	1 Inputs and process	2 Outputs and outcomes	3 Additional achievements
<b>at PoE</b>	<b>surveillance is established<sup>113</sup> at PoE.</b>	<p>conditions for surveillance at designated PoE are identified.</p>	<p>shared with the surveillance department/unit.</p> <p>Mechanisms for the exchange of information between designated PoE and medical facilities are in place.</p> <p>Designated PoE have access to appropriate medical services including diagnostic facilities for the prompt assessment and care of ill travellers, with adequate staff, equipment and premises (Annex 1b, Art.1a).</p> <p>Surveillance of conveyances for the presence of vectors and reservoirs at designated PoE is established (Annex 1B, Art. 2e).</p> <p>Designated PoE with trained personnel for the inspection of conveyances is available (Annex 1b, Art. 1c).</p>	<p>safely dispose of potentially contaminated products/</p> <p>A functioning programme for the surveillance and control of vectors and reservoirs in and near PoE exists (Annex 1A, Art. 6a Annex 1b, Art. 1e).</p>	<p>of health threats at PoE has been carried out in the last 12 months and the results published.</p>
<b>Response at PoE</b>	<b>Effective response at PoE established</b>	<p>SOPs for response at PoE are available.</p>	<p>A public health emergency contingency response plan at designated PoE has been developed and disseminated to key stakeholders.</p> <p>Designated PoE have appropriate space,</p>	<p>A public health emergency contingency plan at designated PoE has been integrated with other response plans, and is tested and updated as needed.</p>	<p>Results of the evaluation of the effectiveness of response to public health events at PoE are published.</p>

<sup>113</sup> This is part of the national surveillance system, or as assigned by the country.

<sup>114</sup> By establishing arrangements with local medical and veterinary facilities for their isolation, treatment and other support services that may be required.

**Points of Entry**

Component of PoE	Country level indicator	Status of development of IHR core capacities requirements at PoE by capability level			
		<1 Prerequisites	1 Inputs and process	2 Outputs and outcomes	3 Additional achievements
			<p>separate from other travellers, to interview suspect or affected persons (Annex 1B, Art. 2c).</p> <p>Designated PoE can provide assessment of and quarantine of suspect travellers and care for affected travellers or animals <sup>114</sup>(Annex 1B, Art. 2b and 2d).</p> <p>Designated PoE referral system and transport for the safe transfer of ill travellers to appropriate medical facilities and access to equipment, in place (Annex 1b, art 1b and 2g)</p>	<p>Designated PoE can apply recommended public health measures<sup>115</sup> (Art. 1B, Art. 2e and 2f).</p>	

<sup>115</sup> Include entry or exit controls for arriving and departing travellers, and measures to disinsect, derat, disinfect, decontaminate or otherwise treat baggage, cargo, containers, conveyances, goods or postal parcels including, when appropriate, at locations specifically designated and equipped for this purpose.

IHR Potential hazards 1: zoonotic events					
Component of hazard	Indicators	Status of development of core capacities for zoonotic event detection and response by capability level			
		<1 Prerequisites	1 Inputs and processes	2 Outputs and outcomes	3 Additional achievements
<b>Capacity to detect and respond to zoonotic events of national or international concern</b>	<b>Mechanisms for detecting and responding to zoonoses and potential zoonoses are established.</b>	Coordination within the responsible government authority(ies) on the detection of, and response <sup>116</sup> to zoonotic events	National policy, strategy or plan for the surveillance and response to zoonotic events are in place.  Focal point(s) responsible for animal health (including wildlife) designated for coordination with the ministry of health and/or IHR NFP <sup>117</sup>	Functional mechanisms <sup>118</sup> for intersectoral collaborations that include animal and human health surveillance units and laboratories are established and documented.	Country experiences and findings related to zoonotic risks and events of potential national and international concern have been shared with the global community over the last twelve months.
		List of priority zoonotic diseases with case definitions	Systematic and timely collection and collation of zoonotic disease data  Systematic information exchange between animal and human health surveillance units about urgent zoonotic events and potential zoonotic risks  Availability or access to laboratory capacity, nationally or internationally (through established procedures) to confirm priority	Zoonotic disease surveillance that includes a community component is implemented.  Timely and systematic information exchange between animal surveillance units, human health surveillance units and other relevant sectors regarding urgent zoonotic events and risks <sup>119</sup>  Regular (at least monthly) information exchange on zoonotic diseases among the laboratories	

<sup>116</sup> Note that coordination for surveillance and coordination for response may be the responsibility of different authorities.

<sup>117</sup> Information sharing, meetings, SOPs developed for collaborative response etc.

<sup>118</sup> A joint working group or other mechanism between the animal health surveillance system and the human health surveillance system and all other relevant sectors that meets regularly, with joint risk assessments, risk communications, planning, monitoring, and documented procedures.

<sup>119</sup> Timeliness is judged and determined by each country.

IHR Potential hazards 1: zoonotic events					
Component of hazard	Indicators	Status of development of core capacities for zoonotic event detection and response by capability level			
		<1 Prerequisites	1 Inputs and processes	2 Outputs and outcomes	3 Additional achievements
			zoonotic events	responsible for human diseases and animal diseases is established.	
		A regularly updated roster (list) of experts that can respond to zoonotic events is available.	A mechanism for response to outbreaks of zoonotic diseases by human and animal health sectors is established.  Animal health (domestic and wild life) is part of the national emergency response committee agenda.	An operational, inter-sectoral public health plan for responding to zoonotic events is tested and updated as needed.  Timely <sup>120</sup> (as defined by national standards) response to more than 80% of zoonotic events of potential national and international concern.	

<sup>120</sup> The time referred to here is the time between detection and response.



IHR Potential hazards 2: Food Safety					
Component of hazard	Indicators	Status of development of core capacities for food safety event detection and response by capability level			
		<1 Pre-requisites	1 Inputs and processes	2 Outputs and outcomes	3 Additional achievements
<b>Capacity to detect and respond to food safety events that may constitute a public health emergency of national or international concern</b>	<b>Mechanisms are established for detecting and responding to foodborne disease and food contamination.</b>	National or international food safety standards are available <sup>121</sup> .	National food laws, regulations or policy to facilitate food safety control are in place <sup>122</sup> .  An operational national multi-sectoral mechanism <sup>123</sup> for food safety events is in place.  A functioning coordination mechanism is established between the food safety authorities, specifically the INFOSAN Emergency Contact Point (if member) and the IHR NFP.	Decisions of the food safety multi-sectoral body are implemented and the outcomes documented.	The country is an active member of the INFOSAN <sup>124</sup> network.
		A list of priority food safety risks is available.	Guidelines or manuals on the surveillance, assessment and management of priority food safety risks are available.  Epidemiological data related to food contamination are systematically collected and analysed.  Food safety authorities report systematically on food safety events of national or international	Access to laboratory capacity to confirm priority food safety events of national or international concern including molecular techniques.	

<sup>121</sup> This could be based on international standards.

<sup>122</sup> The National Food Safety Control System includes: food law and regulations, food control management, inspection services, laboratory services: food monitoring and epidemiological data, information, education, communication and training.

<sup>123</sup> A network, task force, committee or other mechanism to share information about events that may affect food safety and which is able to operate in a timely manner and effectively reduce the risk of foodborne illness.

<sup>124</sup> The International Food Safety Authorities Network (INFOSAN) is a global network of 177 national food safety authorities, developed and managed by WHO in collaboration with the Food and Agriculture Organization of the United Nations (FAO), that disseminates important global food safety information, and improves national and international collaboration.

IHR Potential hazards 2: Food Safety					
Component of hazard	Indicators	Status of development of core capacities for food safety event detection and response by capability level			
		<1 Pre-requisites	1 Inputs and processes	2 Outputs and outcomes	3 Additional achievements
			<p>concern to the surveillance unit.</p> <p>Risk-based food inspection services are in place.</p>		
		<p>A roster of food safety experts is available for assessment and response to food safety events.</p>	<p>Food safety events are investigated by teams that include food safety experts.</p> <p>Mechanisms are established for tracing, recall and disposal of contaminated products<sup>125</sup>.</p> <p>Communication mechanisms and materials are in place to deliver information, education and advice to stakeholders across the farm-to-fork continuum.</p>	<p>An operational plan for responding<sup>126</sup> to food safety events is tested and updated as needed</p> <p>Food safety control management systems (including for imported food) are implemented</p> <p>Information from foodborne outbreaks and food contamination has been used to strengthen food management systems, safety standards and regulations.</p>	<p>Published analysis of food safety events, foodborne illness trends and outbreaks which integrates data from across the food chain</p>

<sup>125</sup> This would include all products that could be the source of contamination, e.g., feed, food ingredients and food products.

<sup>126</sup> Examples of essential steps in a food event response system after an alert include investigation, risk assessment, risk management, risk communication, effectiveness checks and recall follow-up.

IHR Potential Hazards 3: Chemical events					
Component of hazard	Indicators	Status of development of core capacities for chemical event detection and response by capability level			
		<1 Prerequisites	1 Inputs and process	2 Outputs and outcomes	3 Additional achievements
Capacity to detect and respond to chemical events of national and international public health concern	Mechanisms are established for the detection, alert and response to chemical emergencies.	Experts are identified for public health assessment and response to chemical incidents including chemical risk assessors, risk managers, and clinical toxicologists.	Legislation, policies or protocols are in place for chemical event surveillance, alert <sup>127</sup> and response.	Coordination <sup>128</sup> mechanisms are tested and updated through exercises.	Country experience and findings regarding chemical events and risks of national and international concern are shared with the global community.
			<p>National authorities responsible for chemical events have a designated focal point for coordination with the ministry of health and/or IHR NFP, and are part of the national emergency coordinating structure.</p> <p>Surveillance is in place for chemical events, intoxication, and poisonings.</p> <p>A list of priority chemical events/syndromes that may constitute a potential public health event of national and international concern is identified.</p> <p>Manuals and SOPs for rapid assessment, case management and control are available and disseminated.</p> <p>Alert system in place for rapid communication with IHR NFP</p>		

<sup>127</sup> Elements of alert include SOPs for coverage, criteria of when and how to alert, duty rosters etc.

<sup>128</sup> Note that this cross-references with legislation, policy and financing (core capacities 1 and 2) and these attributes for this component should be also fully addressed under those core capacities. They are under this hazard for coherence, flow, and triangulation where this is administered to the hazard expert.

<sup>129</sup> E.g., large chemical installations, factories, hazardous waste sites, specific transportation routes, storage sites for pesticides etc.

<sup>130</sup> E.g. chemical surveillance, environmental monitoring and chemical incident reporting.

IHR Potential Hazards 3: Chemical events

Component of hazard	Indicators	Status of development of core capacities for chemical event detection and response by capability level			
		<1 Prerequisites	1 Inputs and process	2 Outputs and outcomes	3 Additional achievements
			<p>An emergency response plan that defines the roles and responsibilities of relevant agencies is in place for chemical emergencies.</p> <p>Laboratory capacity or access to laboratory capacity to confirm priority chemical events is established.</p> <p>A risk communication plan for chemical events coordinated with the national risk communications plan is established.</p>	<p>A chemical event response plan has been tested through occurrence of real event or through simulation exercise and is updated as needed.</p> <p>Adequately resourced Poison Centre(s) are in place<sup>131</sup>.</p>	

<sup>131</sup> E.g., clinical toxicology, 7/24 hotline, material data sheet, safety data sheet, and contact details of chemical manufactures.

IHR Potential Hazards 4: Radiation emergencies					
Component of hazard	Indicators	Status of development of core capacities for radiological event detection and response by capability level			
		<1 Prerequisites	1 Inputs and process	2 Outputs and outcomes	3 Additional achievements
Capacity to detect and respond to radiological and nuclear emergencies that may constitute a public health event of national or international concern	Mechanisms are established for detecting and responding to radiological and nuclear emergencies.	Experts are identified for public health assessment and response to radiological and nuclear events.	National policies or plans for the detection, assessment, and response to radiation emergencies are established.  National policies or plans for national and international transport of radioactive material, samples and waste management including those from hospitals and medical services are established.	Established coordination <sup>132</sup> and communication mechanism <sup>133</sup> for risk assessments, risk communications, planning, exercising, monitoring, between relevant national competent authorities <sup>134</sup> responsible for nuclear regulatory control/safety, national public health authorities, ministries of health, IHR NFP and other relevant sectors	Country experiences on the detection and response to radiological risks and events are documented and shared with global community.
		Inventory of hazard sites and facilities, using/handling radioactive sources <sup>135</sup> that may be the source of a public health emergency of international concern is completed.  Monitoring is in place for radiation emergencies.	Mapping of the radiological risks that may be a source of a potential public health emergency of international concern (sources of exposure, populations at risk, etc.)  Systematic information exchange between radiological competent authorities and human health surveillance units about urgent radiological events and potential risks that may constitute a public health emergency of international concern  Scenarios, technical guidelines, and SOPs for risk assessment, reporting, event verification and notification, investigation and		

<sup>132</sup> Note that this cross-references with legislation, policy and financing (core capacities 1 and 2).and these attributes for this component should be also fully addressed under those core capacities. They are under this hazard for coherence, flow, and triangulation where this is administered to the hazard expert.

<sup>133</sup> Information sharing, meetings, SOPs developed for collaborative response etc.

<sup>134</sup> National Competent Authority

<sup>135</sup> E.g., nuclear installations, factories, research or medical facilities, etc.

IHR Potential Hazards 4: Radiation emergencies					
Component of hazard	Indicators	Status of development of core capacities for radiological event detection and response by capability level			
		<1 Prerequisites	1 Inputs and process	2 Outputs and outcomes	3 Additional achievements
			<p>Agencies responsible for radiation emergencies participate in a national emergency response committee and in coordinated response to radiation emergencies.</p> <p>A radiation emergency response plan exists (could be part of national emergency response plan).</p> <p>Strategy for public communication<sup>136</sup> in case of a radiological or nuclear event</p> <p>A mechanism is in place for access<sup>137</sup> to hospitals or health care facilities with capacity to manage patients of radiation emergencies.</p> <p>Basic laboratory capacity and instruments to detect and confirm the presence of radiation and identify its type (alpha, beta, or gamma) for potential radiation hazards</p>	<p>management of radiation emergencies</p> <p>Radiation emergency response drills carried out regularly at national level, including requesting international assistance (as needed) and international notification</p> <p>Regularly updated collaborative mechanisms in place for access to specialized laboratories that are able to perform bioassays<sup>138</sup>, biological dosimetry by cytogenetic analysis and ESR<sup>139</sup>,</p>	

<sup>136</sup> This could be part of the risk communication strategy or plan.

<sup>137</sup> Have agreements, established arrangements and mechanisms to access these capacities in relevant collaborating institutions in other countries.

<sup>138</sup> To measure and monitor the amount of incorporated radioactivity in the human body by the use of whole-body counters, lung monitors, thyroid monitors, or in biological samples.

<sup>139</sup> ESR: electron-spin resonance, measures a dose of radiation absorbed in the human body by measuring a special signal from tooth enamel, nails, hair or other material samples that may be found in items of clothing, mobile phones, etc.

## Appendix 13.2: Concepts applied in developing the checklist for monitoring IHR core capacities

The selection of the indicators and attributes was based on general principles adapted from three conceptual models, described below.

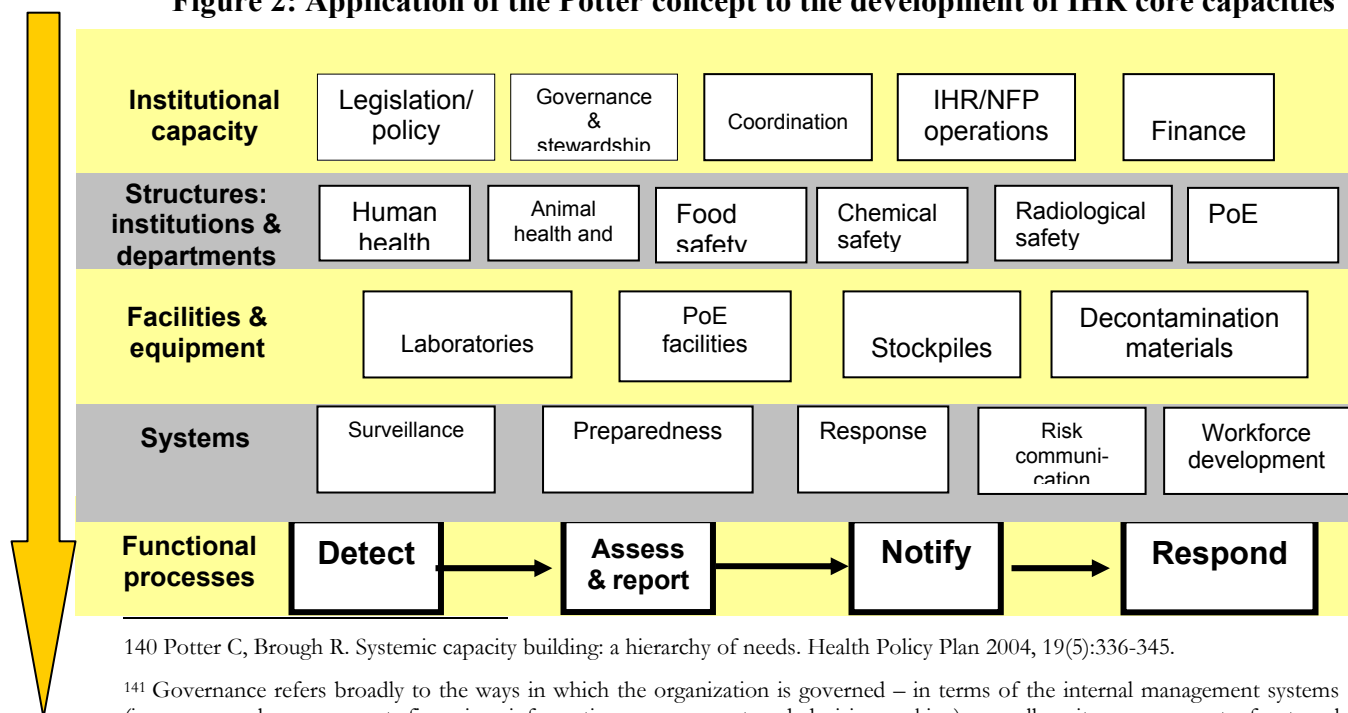
### *The Potter Model*<sup>140</sup> :

The Potter Model, adapted for this framework, defines the building blocks for health system development. The model does not advocate for the development of new structures and systems; rather, it focuses on the need to strengthen existing institutional capacity (including organizational capacity, good governance<sup>141</sup>, stewardship and financing) and institutional structures, which in turn enable the strengthening of facilities, systems and human resources for implementing the IHR, notably with respect to detection, assessment, notification, and response.

The key elements of this model are as follows:

- Performance capacity: Tools, financial resources, equipment, consumables, materials (e.g., personal protective equipment, decontamination materials) needs to be available for workers to perform effectively.
- Individual capacity: Staff must be sufficiently knowledgeable, skilled and confident in order to perform their jobs effectively and with the appropriate attitudes and motivation.
- Systems capacity: Systems are in place to support surveillance and response activities and to develop and test preparedness plans.
- Structures, processes and management capacity: Legislation, policies and procedures are in place and function in a timely and effective manner to guide health care delivery; inter-sectoral coordination; partnerships and networks; and managerial capacity including the flow of information, money and managerial decisions.

**Figure 2: Application of the Potter concept to the development of IHR core capacities**



<sup>140</sup> Potter C, Brough R. Systemic capacity building: a hierarchy of needs. Health Policy Plan 2004, 19(5):336-345.

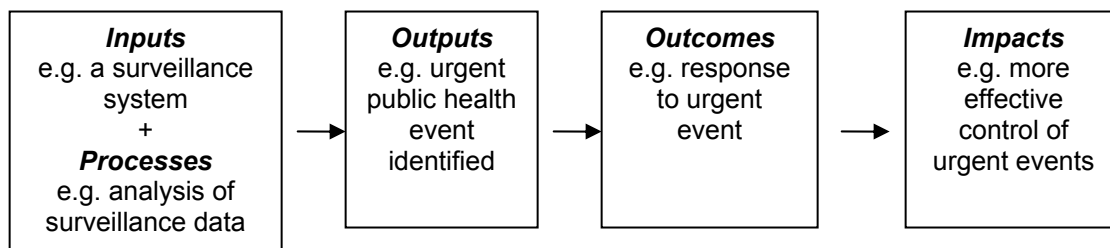
<sup>141</sup> Governance refers broadly to the ways in which the organization is governed – in terms of the internal management systems (i.e., personnel management, financing, information management and decision-making) as well as its management of external accountability through mechanisms such as boards and steering committees.

***The Ripple model***<sup>142</sup>:

The Ripple model regards capacity building as a process that ripples out, resulting in progressive changes over time in individuals, organizations, systems and eventually the status of populations. The assumption is that inputs and processes do in fact ripple out to bring about positive changes in the organization and the services it provides (outputs and outcomes).

While the development stages are seen as progressing sequentially from input to outcomes, the capacity development initiatives for the IHR in reality do not start in a vacuum. Many capacity development initiatives, particularly in the early stages, have little to show except that inputs are present and processes are being implemented. This modified model takes into account the fact that varying levels of capacity already exist across States Parties and that resources, structures and systems need to be acknowledged and strengthened through a dynamic process that ensures national leadership and ownership within the country. Where outputs and outcomes are present, the model encourages the systematic review of inputs and processes in place. An underlying assumption is that core capacity building processes transform inputs into outputs which result in specific outcomes and in the longer term have the required impact.

**Figure 3: Application of the Ripple concept to the development of IHR core capacities**



***The Capability Maturation Index model, also known as Capability Maturation Monitoring***<sup>143</sup>.

In Capacity Maturation Index models<sup>144</sup>, progress is marked by the achievement of meaningful levels in overall capability from a lower to a more advanced level. This involves describing a set of distinct competencies or other functional attributes associated with typical stages of a country's progress. A simplified Capacity Maturation Model involving four capability levels is used in this document, in which each IHR core capacity indicator is characterized by a list of required attributes. These attributes are intended to reflect clear, practical steps towards making progress to the next level, and to serve as a basis for strategic planning by the county.

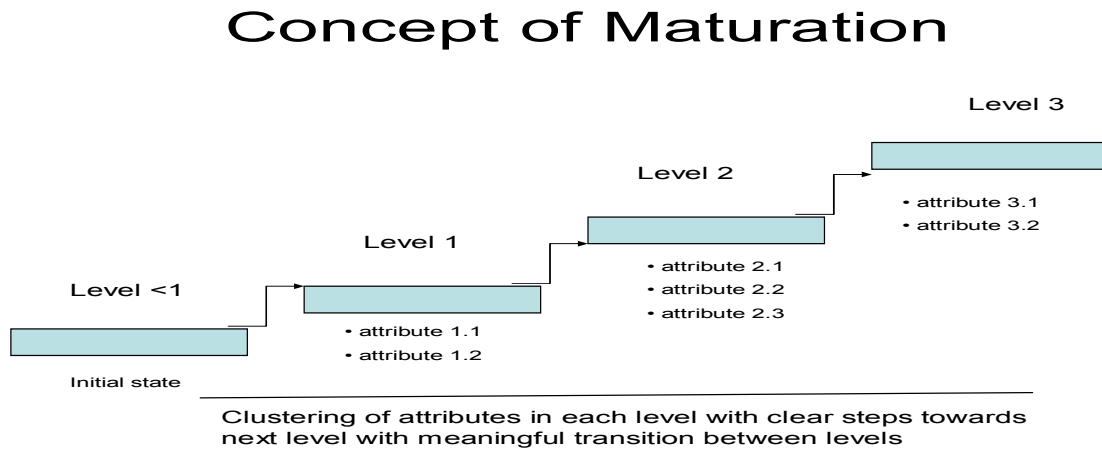
<sup>142</sup> James R. Practical Guidelines for the Monitoring and Evaluation of Capacity Building: Experiences from Africa. The International NGO Training and Research Centre. Occasional Paper Series Number 36, 2001. <http://www.intrac.org/publications.php?id=53>

<sup>143</sup> The Capability Maturity Model® Integration (CMMISM), Version 1.1. <http://www.sei.cmu.edu/reports/02tr012.pdf>.

<sup>144</sup> According to the CMM model, level 1 is an initial state before intervention, level 2 is a managed processes of improvement (reactive), level 3 are characterized by defined processes (proactive), level 4 is quantitative (measured/controlled), and level 5 is optimizing (process improvement).



Figure 4: Illustration of the concept of Maturation Levels



### Appendix 13.3. Example of data collection form

	<b>World Health Organization</b>	<b>INDICATORS FOR MONITORING OF IMPLEMENTATION OF IHR</b>	
<b>Annual Data Collection Tool</b>			
Assessment Year:		WHO Regional Office:	
Date Submitted:		WHO Country Office:	

<b>Core Capacity</b>	<b>2</b>	<b>Coordination and NFP Communications</b>
<b>Component</b>	2.1	IHR NFP Functions
<b>Indicator</b>	2.1.1	Mechanism established for the coordination of all relevant disciplines and sectors <sup>1</sup> in the implementation of IHR

**NOTE:** Before you begin, please review facilitation, administrative, and technical notes. Mark one appropriate value (Yes, No, or Not Known) for each of the question below. For statistical purposes, 'Not Known' value will be computed to equate 'No' value.

2.1.1.1 Is there technical coordination within ministries?

Yes   
  No   
  Notknown

2.1.1.2 Are there SOP<sup>2</sup> for coordination between NFP and stakeholders of relevant disciplines and sectors available?

Yes   
  No   
  Notknown

2.1.1.3 Is a functional multisectoral, multidisciplinary committee or task force in place to address IHR requirements on surveillance and response for public health emergencies of national and international concern<sup>3</sup>?

Yes   
  No   
  Notknown

2.1.1.4 Are decisions of the multisectoral, multidisciplinary committee or task force documented and implemented?

**Appendix 13.4: Example of country overview of IHR core capacity development status**

**Country name:**

			<b>Capability level score</b> (highest level with all attributes present)	<b>Attribute score</b> (proportion of attributes present) in levels 1 & 2	<b>Number of level &lt;1 attributes achieved</b>	<b>Number of level 3 attributes achieved</b>
<b>Core capacity1</b>						
	Component1					
		Indicator 1				
		Indicator 2				
		Indicator 3				
	Component2					
		Indicator 1				
		Indicator 2				
<b>Core capacity 2</b>						
	Component 1					
		Indicator 1				
		Indicator 2				
	Component 2					
		Indicator 1				
		Indicator 2				
	Component 3					
		Indicator 1				

<b>Priority list of level &lt;1 attributes</b>
1.
2.
3.

<b>Level 3 attributes</b>	<b>Website or citation</b>
1.	
2.	
3.	

## Appendix 13.5

### Prototype agenda for data collection workshop

#### Purpose of workshop:

- Update on IHR implementation, including the development of core capacities.
- Introduce the paper-based and internet-based tool monitoring tool and guidance on completing these .
- Complete the monitoring tool
- Identify strengths, gaps, opportunities and threats.
- Make recommendations on addressing gaps identified in strengthening core capacities.

#### Target Audience:

The workshop target audience includes IHR NFP, persons responsible for implementing the IHR, persons responsible for developing core capacities and hazards from various levels of the system, major stakeholders in the implementation of the IHR, persons from other sectors within the country (identified by the IHR NFP), and WHO representatives, if requested.

#### Expected outputs and outcomes:

At the end of the workshop, participants will have completed the paper-based or internet-based monitoring checklist and identified strengths, gaps, opportunities and threats in developing IHR core capacities. Recommendations can then be made to further strengthen weaknesses or fill gaps that have been identified.

#### Pre-workshop activities:

- Obtain IHR NFP access to the internet-based tool.
- Identify workshop participants.
- Send invitations to participants, including objectives and expected outputs, outcomes and benefits of their participation.
- Send hard and/or electronic copies of the tool to the NFP for distribution to and review by participants.
- Complete a first draft through an internal process with the participation of respective units, e.g., surveillance, response, PoE, each hazard, laboratory, etc., if deemed appropriate
- Consider the need to invite WHO to participate in or facilitate the workshop, and/or other international partners.

#### Method of work:

- plenary sessions, for presentations, discussions and completing the tool;
- group work.

#### Working documents studied/used during the workshop:

##### WHO documents

- the International Health Regulations (2005), WHO , Geneva, 2005;

- the checklist for monitoring core capacities for surveillance and response in State Parties in accordance with Annex 1A;

#### **States Parties' documents**

- all relevant documents needed to complete the assessment (reports, surveys, decrees, laws, country assessments, etc.);
- documentation of capacity strengthening activities.

#### DAY 1

Time	Content/Activity
	Introduction to workshop Objectives/outcomes and role of facilitators
	Overview of the IHR
	Overview of core capacities
	Overview of monitoring and tools
	Break
	Review of progress, of IHR implementation
	Presentations on hazards
	Presentations on PoE
	Lunch
	Review of relevant country documents and observations regarding, e.g., legislation, policy, coordination and human resources (e.g., manuals, case definitions, reports of surveys carried out or analysis of questionnaires, etc.)
	Close of day 1

#### DAY 2

	Separation into Working groups (based on Core Capacity)
	Group work (filling out the paper based tool)
	Break
	Group Work (filling out the tool)
	Lunch
	Group Work (filling out the tool)
	Completion of tool by all groups
	Feedback from all groups
	Close of Day2

#### DAY 3

	Summary of day 2
	Data entry into the internet-based tool and discussions
	Group work; strengths, weaknesses, opportunities and threats (SWOT) analysis
	Break
	Group presentation
	Addressing gaps and strengthening IHR core capacities
	Recommendations and next steps
	Closing remarks

## Appendix 13.6

### *Strength, weaknesses, opportunities and threat (SWOT) Analysis by hazard: biological (infectious, zoonotic, food safety), chemical event, radiological and of PoE*

Core capacities	Strengths	Weaknesses	Opportunities	Threats	Suggestions and recommendations
National legislation					
Policy and coordination					
Surveillance					
Response					
Preparedness					
Risk communication					
Laboratory					
Human resource capacity					

### *Summary of findings by hazard*

<b>Hazards</b>  <b>Core capacities</b>	Biological hazards			Chemical	Radiation
	Infectious	Zoonotic	Food safety <sup>145</sup>		
1: Legislation and policy					
2: Coordination					
3: Surveillance					
4: Response					
5: Preparedness					
6: Risk communication					
7: Human resources					
8: Laboratory					
PoE					

<sup>145</sup> Note that food safety hazards could also be of a chemical and/or other nature.

## **Appendix 13.7: Comprehensive list of Indicators (30 indicators)** (WHA indicators (20 indicators) are shown in bold, blue typeface.)

### **Core capacity 1: National legislation, policy & financing**

- **Laws, regulations, administrative requirements<sup>146</sup>, policies or other government instruments in place are sufficient<sup>147</sup> for implementation of obligations under the IHR.**
- Funding is available and accessible for implementing the IHR and developing IHR core capacities.

### **Core capacity 2: Coordination<sup>148</sup> and NFP communications**

- **A mechanism is established for the coordination of relevant sectors<sup>149</sup> in the implementation of IHR.**
- **IHR NFP functions and operations are in place as defined by the IHR (2005).**

### **Core capacity 3: Surveillance**

- **Indicator based, routine, surveillance includes an early warning<sup>150</sup> function for the early detection of public health events.**
- **Event based surveillance is established.**
- A coordinated mechanism is in place for collecting and integrating information from sectors relevant to the IHR.

### **Core capacity 4: Response**

- **Public health emergency response mechanisms are established.**
- Case management procedures for IHR relevant hazards are established.
- **Infection prevention and control (IPC) is established at national and hospital levels.**
- A programme for disinfection, decontamination and vector<sup>151</sup> control is established.

### **Core capacity 5: Preparedness**

- **A Multi-hazard National Public Health Emergency Preparedness and Response Plan has been developed.**
- **Public health risks and resources are mapped.**

### **Core capacity 6: Risk communication**

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<sup>146</sup> This refers to legislation that covers biological (infectious, zoonotic, food safety), chemical and radiological and nuclear event surveillance, preparedness and response.

<sup>147</sup> Sufficient means allowing for fulfilment of obligations.

<sup>148</sup> A coordination mechanism/body is available and functional, with terms of reference, membership from all relevant sectors, established communications channels, access to decision-makers and contacts, joint activities, meeting reports, plans, and evaluation.

<sup>149</sup> Relevant sectors and disciplines include, for example, all levels of the health care system (local community, primary public health response, intermediate and national/central levels) NGOs, and ministries of agriculture (zoonosis, veterinary laboratory), transport (transport policy, civil aviation, ports and maritime transport), trade and/or industry (food safety and quality control), foreign trade (consumer protection, control of compulsory standard enforcement), communication, defence (information about migration flow), treasury or finance (customs) of the environment, the interior, home office, health and tourism.

<sup>150</sup> The early warning component detects departures from normal.

<sup>151</sup> As defined in the IHR (2005), vector means an insect or other animal which normally transports an infectious agent that constitutes a public health risk.

- **Mechanisms for effective risk communication during a public health emergency are established.**

**Core capacity 7: Human resource capacity**

- **Human resources available to implement IHR core capacity requirements.**

**Core capacity 8: Laboratory**

- A coordinating mechanism for laboratory services is established.
- **Laboratory services to test for priority health threats available and accessible.**
- Influenza surveillance is established.
- A system for the collection, packaging and transport of specimens is established.
- **Laboratory biosafety and biosecurity practices are in place.**
- Laboratory data management and reporting is established.

**PoE**

- **General obligations at PoE are fulfilled.**
- Compliance with the IHR (2005) for PoE and for health and technical documents is established.
- Coordination in the prevention, detection and response to public health events at PoE is established.
- **Effective surveillance is established<sup>152</sup> at PoE.**
- **Effective response is established at PoE.**

**IHR Potential hazards 1: zoonotic events**

- **Mechanisms for detecting and responding to zoonoses and potential zoonoses are established.**

**IHR Potential hazards 2: food safety**

- **Mechanisms are established for detecting and responding to foodborne disease and food contamination.**

**IHR Potential hazards 3: chemical event**

- **Mechanisms are established for the detection, alert and response to chemical emergencies.**

**IHR Potential hazards 4: radiation emergencies**

- **Mechanisms are established for detecting and responding to radiological and nuclear emergencies.**

## **Appendix 13.8**

### **Criteria for the selection of indicators to be reported to the WHA (mandatory)**

#### **Background**

For reporting to the WHA, a limited number of indicators have been selected from the 30 indicators developed for monitoring IHR core capacity development. The biggest challenge in this process has been that of limiting the number of indicators so that they still reflect well on the core capacities to inform strategic decision-making. Since most of the WHA participants are health ministers, it is likely that what they will be most interested in is the progress in implementation, and in particular, where the Assembly

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<sup>152</sup> This is part of the national surveillance system, or as assigned by the country.

may help make a difference. This could include drafting resolutions that address higher level strategies rather than focusing on more technical details such as improving efficiencies in the surveillance system to do with sensitivity, timeliness, representativeness etc.

### **Selection Criteria**

The following key criteria have been applied to prioritize the indicators to be submitted to the WHA:

- The indicator is explicitly identified in any of the Articles or Annex of the IHR (2005).
- For indicators that were not explicitly identified in the IHR, the judgment of the expert working group on its importance, necessity and desirability was accepted.
- The likelihood of the WHA's interest in the progress in implementation of the indicator, and in particular, where they can help make a difference.