

JOINT EXTERNAL EVALUATION OF IHR CORE CAPACITIES

of

VIET NAM

Mission report:
28 October–4 November 2016



**World Health
Organization**

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Abbreviations

AIDS	Acquired Immune Deficiency Syndrome
AMR	Antimicrobial Resistance
APSED	Asia Pacific Strategy for Emerging Diseases
AVET	Applied Veterinary Epidemiology Training
BSL	Biosafety Level
DAH	Department of Animal Health
EBS	Event-Based Surveillance
EOC	Emergency Operation Center
EPI	Expanded Programme on Immunization
EQA	External Quality Assessment
EVM	Effective Vaccine Management
FAO	Food and Agriculture Organization of the United Nations
FETP	Field Epidemiology Training Programme
GDPM	General Department of Preventive Medicine
GHSA	Global Health Security Agenda
HCAI	HealthCare-Associated Infection
HCMC	Ho Chi Minh City
HIV	Human Immunodeficiency Virus
IBS	Indicator-Based Surveillance
ICC	Interagency Coordination Committee
IHR	International Health Regulations
IHR NFP	National Focal Point
INFOSAN	International Network of Food Safety Authority Network
IPC	Infection Prevention and Control
ISCFS	Inter-ministerial Standing Committee on Food Safety (ISCFS)
JEE	Joint External Evaluation
LISN	Longitudinal Influenza Surveillance Network
MARD	Ministry of Agriculture and Rural Development
MCV	Measles-Containing Vaccine
MERS	Middle East Respiratory Syndrome
MOD	Ministry of Defence
MOET	Ministry of Education and Training
MOF	Ministry of Finance
MOFA	Ministry of Foreign Affairs
MOH	Ministry of Health
MOIC	Ministry of Information and Communication
MOIT	Ministry of Industry and Trade
MOLISA	Ministry of Labour, Invalids and Social Affairs
MONRE	Ministry of Natural Resources and Environment

MOPI	Ministry of Planning and Investment
MOPS	Ministry of Public Security
MOST	Ministry of Science and Technology
MOU	Memorandum of Understanding
NCVD	National Centre for Veterinary Diagnosis
NHTD	National Hospital for Tropical Disease
NIC	National Influenza Centre
NIHE	National Institute of Hygiene and Epidemiology
NPH	National Pediatric Hospital
OIE	World Organization for Animal Health
OOG	Office of the Government
PAHI	Partnership for Avian and Human Influenza
PCR	Polymerase Chain Reaction
PHEIC	Public Health Emergency of International Concern
PHEOC	Public Health Emergency Operations Centre
PI-HCMC	Pasteur Institute in Ho Chi Minh City
PI-NT	Pasteur Institute in Nha Trang
POE	Point of Entry
PPE	Personal Protective Equipment
PPMC	Provincial Preventive Medicine Centre
PVS	Performance of Veterinary Services
SAR	Special Administrative Region
SARI	Severe Acute Respiratory Infection
SOP	Standard Operating Procedure
TOR	Terms of Reference
VARANS	Viet Nam Agency for Radiation and Nuclear Safety
VFA	Viet Nam Food Administration
WHO	World Health Organization
WHO CC	World Health Organization Collaborating Centre
WPRO	WHO Office for the Western Pacific Region

Executive summary

Background

Over the past decade, Member States in the Western Pacific and South East Asia Regions have used the Asia Pacific Strategy for Emerging Diseases (APSED) as a common framework for action in achieving and strengthening International Health Regulations (IHR) (2005) core capacities. In Viet Nam, APSED has guided the development and implementation of the national APSED work plan for the implementation of IHR (2005). The first review of IHR (2005) implementation was conducted in 2012 in Viet Nam, and the country reported achieving minimum core capacities under the IHR (2005) in 2014. Viet Nam is the second Member State in the WHO Western Pacific Region to voluntarily undertake an IHR (2005) joint external evaluation (JEE) using the IHR (2005) JEE tool that was published in 2016.

The JEE process in Viet Nam commenced with an orientation workshop in July 2016 that aimed to: provide a common understanding of the IHR JEE tool and process, provide guidance on the evaluation of technical areas using the IHR JEE tool, and identify the next steps to prepare for the JEE self-assessment. Several ministries attended the orientation workshop. The JEE self-assessment was conducted in August 2016 using the IHR JEE tool, engaging several ministries and development partners, and the findings were documented in a self-assessment report.

Between 28 October and 4 November 2016, a multisectoral team of subject matter experts from the host country, peer Member States and WHO, jointly conducted a review of Viet Nam's capacities. The team had the opportunity to visit the public health emergency operations centre (EOC), central human health and animal health surveillance departments and laboratories, the central hospital, Noi Bai airport, and Bac Giang provincial health department during the mission.

The main objectives of this IHR JEE were to evaluate Viet Nam's capacities and capabilities in relation to the 19 technical areas of the IHR JEE to inform a multi-year national action plan using the Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies (APSED III) as a framework.

Main findings

Review of the self-assessment report, supporting documentation and technical area discussions show that significant progress has been made in Viet Nam in meeting the IHR (2005) core capacity requirements. Viet Nam's capacities as guided by the IHR JEE tool, were predominantly categorized as having developed capacity of 52%, followed by limited capacity of 31% and demonstrated capacity of 17%. High level of capacity was most apparent in the IHR (2005) technical areas of IHR coordination, communication and advocacy; zoonotic diseases; real-time surveillance; and immunization.

The JEE team identified common themes during the mission. Firstly, although it was clear that experience and capacity were present in Viet Nam, the documentation of plans and procedures would permit consistency and continuity of work. Secondly, while Viet Nam has made substantial progress in working with other sectors, there is a need to strengthen multisectoral collaboration, coordination and information sharing, which in some instances may require the involvement of high level of government. Throughout the JEE, cross cutting of technical areas was clearly evident, as is reflected throughout the report. Thirdly, Viet Nam has a sizeable health workforce; however standardized competencies for human resources and incentives to retain staff in the public health workforce are required. Lastly, sustainable investment for health security is needed.

There were clear strengths identified by the JEE team during the mission. Through the whole process of the JEE and the in-country mission, high political commitment was evident. The level of understanding of the IHR (2005) and the IHR Monitoring and Evaluation Framework, and a determination to improve and work

together was apparent from all levels of government. Such commitment is reflected in the strong legislative and regulatory frameworks that exist in the country and at the local levels, which are empowered to get things done. Coordination between sectors was identified as a common theme during the IHR JEE requiring improvement. However, the strong coordination between animal and human health sectors in Viet Nam serves as a good role model on how two sectors can work well together.

Based on the findings during the JEE, a number of overarching recommendations were suggested.

Firstly, the development of a multi-year national action plan is suggested. The plan can be guided by recommendations from the JEE using APSED III as a potential framework. Planning should involve all relevant multisectoral stakeholders and development partners.

Although Viet Nam has strong legislative and regulatory frameworks, legal mandates, authorities and responsibilities of the actors for health security should be reviewed and clarified accordingly, to ensure compliance and consistency with IHR (2005) and other domestic obligations. Plans and procedures supporting health security should be enhanced by guidance from national integrated risk assessment of threats and hazards, the development, documentation and finalization of national guidelines and standard operating procedures (SOPs) (such as the national level public health emergency operations centre (PHEOC) handbook).

Multisectoral and multifunctional coordination and information sharing, particularly at the national level, need to be improved through formal and informal information systems to guide risk assessments used for decision-making and for IHR (2005) implementation. The national strategy for human resources development should be reviewed, strengthened and implemented including the distribution of professional public health staff and the need to explore basic and continuing education. Lastly, although resources have been committed for health security in Viet Nam, there is a need to promote strategic investment for a sustainable system for health security.

Viet Nam scores

Capacities	Indicators	Score
National legislation, policy and financing	P.1.1 Legislation, laws, regulations, administrative requirements, policies or other government instruments in place are sufficient for implementation of IHR (2005)	3
	P.1.2 The State can demonstrate that it has adjusted and aligned its domestic legislation, policies and administrative arrangements to enable compliance with the IHR (2005)	3
IHR coordination, communication and advocacy	P.2.1 A functional mechanism is established for the coordination and integration of relevant sectors in the implementation of IHR (2005)	4
Antimicrobial resistance	P.3.1 Antimicrobial resistance (AMR) detection	2
	P.3.2 Surveillance of infections caused by AMR pathogens	2
	P.3.3 Health care associated infection prevention and control programmes	3
	P.3.4 Antimicrobial stewardship activities	2
Zoonotic disease	P.4.1 Surveillance systems in place for priority zoonotic diseases/pathogens	4
	P.4.2 Veterinary or animal health workforce	4
	P.4.3 Mechanisms for responding to zoonoses and potential zoonoses are established and functional	3
Food safety	P.5.1 Mechanisms are established and functioning for detecting and responding to foodborne disease and food contamination	3
Biosafety and biosecurity	P.6.1 Whole-of-government biosafety and biosecurity system is in place for human, animal, and agriculture facilities	3
	P.6.2 Biosafety and biosecurity training and practices	3
Immunization	P.7.1 Vaccine coverage (measles) as part of national programme	4
	P.7.2 National vaccine access and delivery	4
National laboratory system	D.1.1 Laboratory testing for detection of priority diseases	3
	D.1.2 Specimen referral and transport system	3
	D.1.3 Effective modern point of care and laboratory based diagnostics	3
	D.1.4 Laboratory quality system	3
Real-time surveillance	D.2.1 Indicator and event based surveillance systems	4
	D.2.2 Inter-operable, interconnected, electronic real-time reporting system	3
	D.2.3 Analysis of surveillance data	3
	D.2.4 Syndromic surveillance systems	4
Reporting	D.3.1 System for efficient reporting to WHO, FAO and OIE	3
	D.3.2 Reporting network and protocols in country	2
Workforce development	D.4.1 Human resources are available to implement IHR core capacity requirements	3
	D.4.2 Field epidemiology training programme or other applied epidemiology training programme in place	4
	D.4.3 Workforce strategy	3
Preparedness	R.1.1 Multi-hazard national public health emergency preparedness and response plan is developed and implemented	2
	R.1.2 Priority public health risks and resources are mapped and utilized	2

Emergency response operations	R.2.1 Capacity to activate emergency operations	2
	R.2.2 Emergency operations centre operating procedures and plans	3
	R.2.3 Emergency operations programme	3
	R.2.4 Case management procedures are implemented for IHR relevant hazards	3
Linking public health and security authorities	R.3.1 Public health and security authorities, (e.g. law enforcement, border control, customs) are linked during a suspect or confirmed biological event	2
Medical countermeasures and personnel deployment	R.4.1 System is in place for sending and receiving medical countermeasures during a public health emergency	2
	R.4.2 System is in place for sending and receiving health personnel during a public health emergency	2
Risk communication	R.5.1 Risk communication systems (plans, mechanisms, etc.)	3
	R.5.2 Internal and partner communication and coordination	3
	R.5.3 Public communication	3
	R.5.4 Communication engagement with affected communities	2
	R.5.5 Dynamic listening and rumour management	3
Points of entry	PoE.1 Routine capacities are established at points of entry	3
	PoE.2 Effective public health response at points of entry	2
Chemical events	CE.1 Mechanisms are established and functioning for detecting and responding to chemical events or emergencies	2
	CE.2 Enabling environment is in place for management of chemical events	2
Radiation emergencies	RE.1 Mechanisms are established and functioning for detecting and responding to radiological and nuclear emergencies	3
	RE.2 Enabling environment is in place for management of radiation emergencies	2

Note on Scoring of technical areas of the JEE Tool

The JEE process is a peer-to-peer review and a collaborative effort between host country experts and JEE team members. As a component of the preparations for the JEE, Viet Nam conducted an multi-stakeholder orientation workshop followed by a self-assessment which was led by the Ministry of Health and provided a platform to engage with other sectors and partners. The self-assessment provided information on national capabilities based on the indicators and technical questions included in the JEE tool.

The host country may score their self-assessment or propose a score during the onsite visit with the JEE team. The entire external evaluation, including discussions around the score, strengths and good practices, the areas which need strengthening and challenges, and recommended priority actions, is done in a collaborative manner, with JEE team members and host country experts seeking agreement.

PREVENT

National legislation, policy and financing

Introduction

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

Target

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

Viet Nam level of capabilities

Viet Nam has an established legal framework to support IHR (2005) implementation through the formalization of legal instruments that include laws, regulations, decrees, circulars and decisions.

Assessment of some of the legal instruments for IHR (2005) has resulted in their revision, such as the review of Circular No. 48/2010 on regulations on notification and reporting of communicable diseases. The results of the assessment led to revisions of Circular No. 48 and the development of Circular No. 54/2015 on guiding notification, reporting and declaration of communicable diseases, which has been adopted throughout the country.

Multisectoral collaboration and coordination for IHR implementation is evident in a number of legal instruments. This includes the establishment of multisectoral steering committees, such as the Joint Circular by the Ministry of Health (MoH) and the Ministry of Agriculture and Rural Development (MARD), Circular No. 16/2013 on guidelines for coordinated prevention and control of zoonotic disease; and Decision No. 408 on the establishment of the national steering committee for food safety.

Recommendations for priority actions

- Review and revise relevant legislation documents related to IHR (2005), including the Law on Prevention and Control of Infectious Diseases, to ensure consistency with related legislation documents and further clarify the responsibilities of actors.

- Identify and conduct appropriate actions to improve the enforcement and implementation of related laws at all levels and sectors.
- Strengthen the awareness of relevant multisectoral stakeholders on IHR-related legislations to improve understanding and observance of the related regulations.

Indicators and scores

P.1.1 Legislation, laws, regulations, administrative requirements, policies or other government instruments in place are sufficient for implementation of IHR (2005) – Score 3

Strengths/best practices

- A well-developed legal framework is in place for the implementation of IHR (2005) requirements including a number of laws, regulations, policies, decrees, circulars and decisions by the Prime Minister.
- Important legislation documents for the implementation of IHR have been assessed and revised.

Areas that need strengthening/challenges

- A few laws and regulations require consolidation and streamlining as content overlaps are not consistent.
- A few laws and regulations do not clearly define who is responsible for a particular action or who is allowed to exercise certain powers, which poses challenges in implementation.

P.1.2 The State can demonstrate that it has adjusted and aligned its domestic legislation, policies and administrative arrangements to enable compliance with the IHR (2005) – Score 3

Strengths/best practices

- Multisectoral collaboration in the development of legal instruments for IHR implementation to ensure coordination between sectors.
- The establishment of multisectoral steering committees to facilitate multisectoral coordination.

Areas that need strengthening/challenges

- Although a number of legislation documents have been developed, not all laws are being complied with.
- Better engagement and involvement of different sectors, stakeholders and the general public are needed.

IHR coordination, communication and advocacy

Introduction

The effective implementation of the IHR (2005) requires multisectoral/multidisciplinary approaches through national partnerships for effective alert and response systems. Coordination of nationwide resources, including the designation of an IHR National Focal Point (NFP), is a key requisite for IHR (2005) implementation.

Target

The national IHR focal point should be accessible at all times to communicate with the WHO IHR Regional Contact Points and with all relevant sectors and other stakeholders in the country. States Parties should provide WHO with contact details of national IHR focal points, continuously update and annually confirm them.

Viet Nam level of capabilities

Since 2006, the General Department of Preventive Medicine (GDPM) has been designated as the national IHR focal point in Viet Nam. The country has established several multisectoral national steering committees for specific diseases and threats, including pandemic influenza, avian influenza, food safety, natural disasters and terrorism. Since 2013, Viet Nam also established an EOC for the coordination of public health emergencies. In addition, several circulars, guidelines and SOPs that describe the coordination and communication of MoH and different sectors are available. There is also a draft generic guidance available for coordination between the national IHR focal point and other relevant sectors.

There is a memorandum of understanding (MoU) between the animal health and human health sectors, which serves as a mechanism and provides guidance for information sharing, including surveillance data and laboratory findings. The MoU encompasses avian influenza, rabies and other priority zoonotic diseases; however, the mechanism is functional only during emergencies. There is also an MoU between the MoH and international airports in the country on response during a suspected or confirmed biological event.

In the past few years, there have been annual joint exercises to test coordination and communication mechanisms between several sectors. These include an Ebola exercise in 2014, Middle East Respiratory Syndrome (MERS) exercise with EOC activation, an influenza A (H7N9) table top exercise, and an exercise on a food safety event in 2015. In addition, the Viet Nam national IHR focal point also participates in the annual WHO Office for the Western Pacific Region-led IHR Exercise Crystal. The national IHR focal point has communicated several real-life events to WHO, including pandemic (H1N1) 2009 influenza, human infection with avian influenza A (H5N1), and cases of Zika virus infection, including a case of microcephaly possibly linked to Zika virus infection. MARD has reported several events of avian influenza to the World Organisation for Animal Health (OIE) in recent years.

Since 2012, Viet Nam has been conducting an annual review of the progress of IHR (2005) implementation, which provides a platform to engage other relevant sectors. Based on gaps identified and lessons learned from the annual review of progress a national action plan has been developed. The results of the self-reported IHR monitoring questionnaire are shared with the World Health Assembly annually. In addition, MARD also submits its reports to Food and Agriculture Organization of the United Nations (FAO) and OIE, accordingly.

Recommendations for priority actions

- Establish a multisectoral coordinating mechanism for IHR (2005) implementation.
- Formalize the SOP for IHR reporting and the decision-making process when a potential public health emergency of international concern (PHEIC) is detected.
- Continue to strengthen IHR (2005) implementation and further strengthen the national IHR focal point capacities including the development of terms of reference (ToR).
- Strengthen IHR advocacy to other relevant sectors and stakeholders.
- Continue to strengthen communication and coordination between the national IHR focal point and other relevant government agencies.

Indicators and scores

P.2.1 A functional mechanism is established for the coordination and integration of relevant sectors in the implementation of IHR (2005) – Score 4

Strengths/best practices

- Laws, regulations and interagency steering committees are in place to support coordination and communication between the national IHR focal point at the MoH and other agencies during public health emergencies.
- IHR coordination and communication capacities have been tested by exercises and a functional drill.
- Real events that are a potential PHEIC have been reported to WHO.
- An annual review of IHR and APSED implementation is conducted with findings incorporated in the following year's action plan.

Areas that need strengthening/challenges

- There is no formal generic SOP for national IHR focal point communication and the decision-making process when a potential PHEIC is detected.
- Although the mechanisms for coordination, collaboration and communication have been well-established through the official steering committee and IHR task force, implementation could be improved by approval of generic SOPs to guide the coordination of multiple agencies.

Antimicrobial resistance

Introduction

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

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

Target

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

Viet Nam level of capabilities

There is high level of commitment in Viet Nam to combat antimicrobial resistance across four key government ministries (health, agriculture, investment and trade, and natural resources and environment) – through the Aide Memoire signed in 2015. The recent establishment of a national steering committee for antimicrobial resistance prevention and control representing the four ministries on the Aide Memoire will be a critical coordinating mechanism for action.

The elements of a comprehensive policy framework are in place, with good progress in implementation of measures for antimicrobial resistance detection, and health care infection prevention and control in selected central hospitals. There is established laboratory detection capacity for antimicrobial resistance in humans, and developing capacity for laboratory detection in the animal and agriculture sectors.

Important lessons identified during the country evaluation were that implementation is stronger centrally but significant work remains to be done in strengthening public health capacity in antimicrobial resistance detection and surveillance. There are early positive signs of implementation of antimicrobial stewardship and infection prevention and control (IPC) in healthcare facilities, both of which require support to build through the healthcare system. Providing there remains continued high-level political commitment and attention to human and material resource requirements in the provinces and districts, this should be achievable in Viet Nam.

Recommendations for priority actions

- Strengthen capacity of the national coordinating agency for surveillance of antimicrobial resistance in humans, to collate and report on antimicrobial resistance, and antimicrobial use data from all relevant sources.

- Finalize development and progress in implementation of the National Action Plan for Antimicrobial Resistance and Antimicrobial Use Reduction in Livestock and Aquaculture.
- Strengthen antimicrobial stewardship activities, initially in central hospitals through prescriber education, clinical leadership, availability of clinical guidelines on handheld devices and developing an annual audit of the appropriateness of prescribing.
- Research and implement efficient and effective ways to strengthen adherence to regulations on antibiotic prescribing in human and animal health.
- Continue to strengthen infection prevention and control mechanisms in Viet Nam through implementation of the National Action Plan for Infection Prevention and Control (2016–2020).

Indicators and scores

P.3.1 Antimicrobial resistance (AMR) detection – Score 2

Strengths/best practices

- Designated laboratories can detect antimicrobial resistance in the seven pathogens under the WHO Global Action Plan on Antimicrobial Resistance.
- There is capacity for antimicrobial resistance testing in central animal and food laboratories and some regional animal health laboratories.

Areas that need strengthening/challenges

- Developing national quality assurance for antimicrobial resistance testing to improve reliability and comparability of results in public health and clinical laboratories.
- Building a culture of laboratory-based diagnosis of infectious diseases to support appropriate clinical management as well as laboratory-based detection and surveillance of antimicrobial resistant pathogens.

P.3.2 Surveillance of infections caused by AMR pathogens – Score 2

Strengths/best practices

- National network for surveillance of antimicrobial resistance exists through 16 designated hospitals, and many of these hospital laboratories have been undertaking antimicrobial resistance testing and monitoring for several years.
- The recent MoH “decision on creating and defining the roles and responsibilities of the drug-resistance bacteria surveillance systems in health care facilities” is a positive step that recognizes the importance of governance and coordination in national antimicrobial resistance and antimicrobial use surveillance.

Areas that need strengthening/challenges

- Strengthening capacity in the national coordinating agency for antimicrobial resistance surveillance in health care facilities to collate and report on antimicrobial resistance and antimicrobial use data from all relevant sources.
- Collection and reporting of demographic and clinical information on human infections caused by resistant pathogens to accompany laboratory-based surveillance, and enabling participation in the WHO Global Antimicrobial Resistance Surveillance System (GLASS).
- Establishing mechanisms to share surveillance information between the human, animal, environment and food sectors, using the opportunities provided by Circular No. 16 and the Aide Memoire.

P.3.3 Health care associated infection prevention and control programmes – Score 3

Strengths/best practices

- A national action plan for improving infection prevention and control has been developed and implementation has started.
- Monitoring of implementation of the infection prevention and control programme conducted in 2015 showed moderate progress in implementation of infection prevention and control structures and activities in hospitals, with evidence of good practices centrally, and opportunities to improve in province and district health care facilities.
- Planning for standardized health care associated infection surveillance has started in several central hospitals; some include antimicrobial resistance detection and surveillance capacity, while most have implemented the infection prevention and control programme.

Areas that need strengthening/challenges

- Developing a standardized approach to health care associated infection surveillance, integrated with infection prevention and control committees and responsibilities.
- Expanding the coverage of health care associated infection surveillance, so that they can be linked to infection prevention and control resources and opportunities for laboratory diagnosis, and using the findings of the 2015 survey to target investment in infection prevention and control where it will have the most impact, especially in hospitals with least developed programme and infrastructure.
- Investing in workforce and training for infection prevention and control, including development of competency based training for current health care facility staff, requires the inclusion of infection prevention and control in undergraduate and graduate training programmes in all relevant disciplines.

P.3.4 Antimicrobial stewardship activities – Score 3

Strengths/best practices

- There is a national plan for antimicrobial stewardship that applies to all hospitals in Viet Nam.
- Some designated centres, namely central hospitals, are building antimicrobial stewardship programmes.
- Guidelines and restrictions on antibiotics exist, and a mechanism for regulation at some hospitals is in place.
- MARD has issued a restricted list of antibiotics that can be used in the animal sector, has demonstrated some evidence of monitoring antibiotic residues in livestock feeds, and is developing a plan to reduce antibiotic use in animals.

Areas that need strengthening/challenges

- Monitoring of antibiotic use and enforcement of prescribing regulations in human and animal health sectors.
- Antimicrobial stewardship activities and systems, while focusing initially on central hospitals, should have a view to build capacity slowly across the country. Initial activities should include:
 - development of annual audit based feedback on appropriateness of prescribing in hospitals; and
 - identification of antimicrobial stewardship “clinical champions” to demonstrate clinical leadership considering the importance of engaging prescribers throughout health care facilities.
- Investing in critical workforce for stewardship in human health care especially clinical pharmacists, and in animal health through veterinary and para-veterinary workers to support better prescribing practices of antibiotics across all sectors.

Zoonotic disease

Introduction

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

Target

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

Viet Nam level of capabilities

In recent years, Viet Nam has made significant improvements toward a multisectoral approach to address zoonotic diseases. This is in response to domestic threats such as rabies, human infection with highly pathogenic avian influenza strains, external threats, such as Ebola Virus Disease (EVD), human infection with avian influenza A (H7N9), MERS; and global initiatives to promote One Health and health security. National planning progressed from coordinated animal and human health activities to address avian influenza virus A (H5N1) under the National Integrated Operational Program for Avian and Human Influenza 2006–2010, to a broader focus on emerging and re-emerging diseases under the Viet Nam Integrated National Operational Program on Avian Influenza, Pandemic Preparedness and Emerging Infectious Diseases (AIPED) 2011–2015, and then to a national One Health roadmap 2015–2016, that outlines collective engagement across sectors to prevent and control zoonotic diseases.

The One Health approach should allow a transition from individual diseases to all zoonotic diseases, antimicrobial resistance and food safety, in line with APSED III. An integrated One Health Action Strategic Plan for the period 2016–2020 has also been drafted. Joint disease-specific response plans (e.g. joint action plan for rabies prevention and control, Viet Nam One Health Strategic Plan for Zoonotic Diseases, 2016–2020) have been developed and multisectoral steering committees have been established from national to local levels.

In 2016, building on the previous Partnership for Avian and Human Influenza (PAHI), the “One Health Partnership for Zoonoses” was established under the Prime Minister’s guidance to support the application of a One Health approach. Under this partnership, 27 local and international agencies were identified to promote multisectoral coordination of all activities and events involving zoonotic diseases.

In Viet Nam, the five priority zoonotic diseases identified jointly by the human and animal health sectors are anthrax, avian influenza, leptospirosis, rabies and disease associated with *Streptococcus suis*. Disease-specific surveillance systems and contingency plans have been developed for these priority diseases. Although not considered priority diseases, other zoonotic diseases such as brucellosis, bovine tuberculosis and trichinosis are also of significant concern in the country.

Recommendations for priority actions

- Translate existing disease-specific surveillance systems and contingency plans into more generic inter-sectoral operational procedures. These procedures should:

- cover the main functions ensuring exchange of information inside and between sectors, coordinated investigation, rapid detection, reporting and response activities; and
- further define roles and responsibilities, ToR and expected activities from the different actors involved at all levels. The EOC can be instrumental in operationalizing and testing these plans.
- Empower the multisectoral National Steering Committee for Zoonosis and steering committees for outbreak control and prevention at the provincial and districts level to implement the recommended actions.
- Review the distribution of professional staff across the country and explore the need for basic and continuing education – especially for field staff; encourage multisectoral training in epidemiology, rapid response, risk management, multisectoral coordinated communication and any other functions to consolidate early detection and early coordinated response at the field level.

Indicators and scores

P.4.1 Surveillance systems in place for priority zoonotic diseases/pathogens – Score 4

Strengths/best practices

- Comprehensive legal and regulatory frameworks that clearly clarify roles, attributions and duties of the different actors.
- Strong political support for zoonotic diseases and commitment from partners.
- Surveillance guidelines have been developed for priority zoonotic diseases and all five priority zoonotic diseases are nationally notifiable diseases in the indicator-based surveillance system.
- Commitment in strengthening event-based surveillance and encouraging reporting of animal incidents.

Areas that need strengthening/challenges

- A multisectoral national steering committee for zoonosis control has been proposed, but not yet established.
- Strengthen the mechanism for information sharing between the human health and animal health sectors and between laboratories.

P.4.2 Veterinary or animal health workforce – Score 4

Strengths/best practices

- Animal health workforce capacity exists with several hundreds of veterinarians having graduated from the six veterinary universities in the country. There are 20 000 to 30 000 para-veterinarians that contribute to the veterinary workforce, mainly at the local level.
- Training on inter-sectoral collaboration between human and animal health sectors and outbreak investigation (joint training) has been conducted in provinces that frequently report zoonotic diseases, including at the local level.
- Disease-specific training and exercises have been conducted.
- Additional training courses are available for veterinarians, including the Applied Veterinary Epidemiology Training (AVET) programme.
- The Viet Nam One Health University Network project also contributes to increase in the One Health workforce.

Areas that need strengthening/challenges

- Curriculum and basic knowledge of local staff, especially para-veterinarians, need to be assessed.
- Involvement of private veterinarians in surveillance and control programmes should be promoted.
- There are no requirements for veterinarians to be included in continuous education programmes for the surveillance and control of animal diseases.

P.4.3 Mechanisms for responding to zoonoses and potential zoonoses are established and functional – Score 3***Strengths/best practices***

- A circular describing the coordination required between the different sectors during a zoonotic event exists.
- Information sharing between the human and animal health sectors often occurs informally by phone, or during an emergency or through ad hoc briefings.

Areas that need strengthening/challenges

- The response mechanism is currently limited to a few selected priority zoonotic diseases.
- The wildlife sector is not involved in the coordination mechanism and its contribution in planning, data sharing and response to zoonoses is limited.
- Staff retention appears to be an issue, especially at the local level, due to other opportunities and fewer incentives including payments.
- Farmers, breeders and communities appear to have limited knowledge on risks of zoonotic diseases and measures to reduce inappropriate and at-risk behaviours.

Food safety

Introduction

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

Target

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

Viet Nam: level of capabilities

In Viet Nam, food safety is under the responsibility of three ministries, namely MoH, MARD and the Ministry of Industry and Trade (MoIT). The Viet Nam Food Administration (VFA) under MoH is the main managerial agency responsible for food safety oversight and publishes an annual report on food safety. Viet Nam has a well-established legal and coordination system to prevent and manage food safety events, including a notifiable disease surveillance system covering 42 diseases of which some may be foodborne. Viet Nam has a food safety law in place and a national strategy for food safety for 2011–2020 with a vision to 2030. National and provincial food safety steering committees have been established for multisectoral coordination and response to food safety events. At the national level, the Inter-ministerial Standing Committee on Food Safety (ISCFS) is under the chairmanship of the Deputy Prime Minister and the Secretariat is with the Office of the Government. While the ISCFS has been effective in dealing with food safety emergencies, day-to-day communications and coordination among the different ministries has proven to be challenging.

The national food safety steering committee serves as a mechanism for information exchange and provides a six-monthly report. The distribution of roles and responsibilities for the different actors involved in the continuum from farm-to-table has been clearly described. A Provincial Food Safety Steering Committee led by the People's Committee Chairperson has also been established at the provincial level. Focal points have been identified in the relevant sectors for coordination of response during a food safety event.

Since 2011, Viet Nam has also been a member of the International Network of Food Safety Authorities (INFOSAN) with the INFOSAN emergency contact point based in the VFA, and supported by a focal point in the National Agro-Forestry-Fisheries Quality Assurance Department under MARD. Since 1989, Viet Nam has been a member of the Codex Alimentarius Commission with the national Codex Contact Point also located within the VFA. The national Codex Committee includes 49 members from MoH, MARD, MoIT, Ministry of Science and Technology (MoST), universities and the private sector.

Recommendations for priority actions

- Promote a risk-based approach for food safety management in Viet Nam, to better identify adequate preventive measures, allocate resources for effective implementation of food safety law, and develop appropriate messages to raise awareness among the main stakeholders and the population.

- Improve the involvement of various stakeholders (including small vendors) along the food production and distribution chain in prevention and surveillance of food-related health events; this will require appropriate communication and education programmes.
- Review the workforce available for inspection and the need for basic and continuing education of staff.
- Strengthen institutional arrangements for national food control. The current system of three ministries responsible for different products could be strengthened.
- Improve coordination and collaboration between VFA and GDPM, as a means to strengthen the assessment of food safety risks based on existing notifiable disease surveillance and food poisoning systems.

Indicators and scores

P.5.1 Mechanisms are established and functioning for detecting and responding to food-borne disease and food contamination – Score 3

Strengths/best practices

- Food safety laws and regulations are in place and in accordance with international standards.
- Improvement in food safety is promoted from the highest level of authorities. Viet Nam has established a National Inter-ministerial Standing Committee on Food Safety, led by the Deputy Prime Minister.
- VFA has three surveillance teams on standby at the central level to conduct investigations when required. Provincial Preventive Medicine Centres (PPMC) and the provincial Sub-VFA jointly investigate most of the local outbreaks, according to pre-established procedures.
- PPMC laboratories are available at the local level to conduct testing of food and clinical samples, and veterinary laboratories test animal products.

Areas that need strengthening/challenges

- Risk profiling and risk assessments are currently conducted by the national and provincial ministerial standing committees, but not routinely.
- A draft document on the management of imported food and risk profiling exists but is pending clearance.
- Steering committee on food safety needs to further strengthen to provide overall coordination among the three ministries.
- Coordination, information sharing of surveillance reports, inspection results, food safety events and subsequent response needs strengthening at all levels and between all involved parties.
- The communication mechanism between food safety stakeholders is very limited, informal and often only during emergencies.
- The private sector is not involved in the foodborne disease surveillance system.
- Actors along the value chain lack knowledge and awareness on risks associated with food.
- Increased communication and regular awareness raising campaigns targeting the general public would be highly desirable. Currently, information to the general public is disseminated through the VFA official website, annual reports, media and during special campaigns targeting street vendors.

Biosafety and biosecurity

Introduction

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

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

Target

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

Viet Nam level of capabilities

Viet Nam has made important progress in biosafety, as part of a broader plan for strengthening national capacity in public health laboratories. Progress has been made in developing a biosafety legislative framework and biosafety training capacity in the regional institutes that would enable delivery of training to staff from provincial and district laboratories. Biosafety would be further strengthened by reviewing biosafety legislation and regulations against the international standards and investment in maintenance and certification of key biosafety equipment such as biosafety cabinets in all biosafety level 2 (BSL-2) laboratories. For this to happen, there is a need to build capacity in provincial health departments and preventive medicine laboratories to inspect and certify laboratories in the provinces.

Recommendations for priority actions

- Strengthen capacity of provincial health departments to certify and inspect diagnostic laboratories (BSL-1/2).
- Commit resources to maintain key biosafety infrastructure, such as biosafety cabinets, in a sustainable manner.
- Implement targeted biosafety and biorisk management training throughout the country in a coordinated manner, to develop a large network of trainers and trained laboratory workers who can regularly access expertise, tools and manuals to support biosafety practices.
- Develop and monitor implementation of the biosecurity regulatory framework, combined with targeted education and awareness of procedures among key stakeholders.

Indicators and scores

P.6.1 Whole-of-government biosafety and biosecurity system is in place for human, animal and agriculture facilities – Score 3

Strengths/best practices

- The five-year plan for strengthening laboratory capacity in Viet Nam is a framework that recognizes the critical functions of the public health laboratory system and sets out clear objectives that contribute to the overall goal of strengthening laboratory capacity.
- Viet Nam is cognizant of the importance of developing biosecurity regulations, with awareness of requirements to establish systems and procedures to ensure containment of dangerous pathogens.

Areas that need strengthening/challenges

- To fully meet the capacity requirements of P6.1 score 3, the following capacities must be strengthened:
 - Development of national biosecurity legislation, regulations and guidelines, which should enable monitoring of selected dangerous pathogens and toxins.
 - Implementation of adequate pathogen control measures.
 - Consolidation of dangerous pathogens and toxins into a minimum number of facilities.
 - Establishment of oversight mechanisms to monitor and enforce biosecurity legislations.
- The current national laboratory system, including human, animal and agricultural sectors, needs investment to build workforce, equipment and capability to achieve and maintain a quality biosafety system and develop a biosecurity system.
- Build capacity and resources to service and certify biosafety cabinets to a national standard. This could be linked to a broader effort to develop capacity at provincial health departments to oversee relevant laboratories, including development of materials and training to strengthen assessment of BSL-1/2 laboratories.
- Promote regular internal audits and strengthen the assessment mechanism for certification of BSL-1/2 laboratories.
- Integrate assessment of biosafety within the broader efforts to improve laboratory quality management systems in Viet Nam, as relevant to the national laboratory system (see Detect indicators 7.1–7.4).

P.6.2 Biosafety and biosecurity training and practices – Score 3

Strengths/best practices

- Hubs of expertise in biosafety identified through four regional institutes that are responsible for conducting training of laboratory workers.
- Laboratory personnel, facilities, equipment and performance in national, regional and provincial laboratories were recently evaluated to enable targeted actions as part of a broader plan for strengthening national capacity in public health laboratories.

Areas that need strengthening/challenges

- Mechanisms to monitor and document the effectiveness of training on biosafety and biosecurity for laboratory workers are required.
- Targeted biosafety and biorisk management training in a coordinated manner is needed throughout the country to improve biosafety practices by developing a network of trainers and trained laboratory workers who can regularly access expertise, tools and manuals.
- Continuing education and professional development in biosafety and biorisk management and further development within academic training for medical laboratory technicians is required.

Immunization

Introduction

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

Target

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

Viet Nam level of capabilities

Viet Nam's National Expanded Program on Immunization (NEPI), launched in 1981, has expanded into a well-functioning programme that includes vaccines against a growing number of priority vaccine-preventable diseases. NEPI is the implementing body of MoH to provide all EPI vaccines aligned with WHO's Global Vaccination Action Plan. Currently, nine vaccines are used in the national immunization schedule which covers 10 vaccine-preventable diseases – diphtheria, hepatitis B (HepB), invasive bacterial diseases caused by *Haemophilus influenzae* type b, Japanese encephalitis, measles, pertussis, poliomyelitis, rubella, tetanus and tuberculosis.

Six of the nine EPI vaccines are domestically produced. Other domestically produced vaccines, such as vaccines for cholera, meningococcal disease, rabies, typhoid and yellow fever, are also available and are used for vaccination of specific targeted groups or in the private sector. Vaccinations against diseases under NEPI are free of cost and mandatory.

Viet Nam has a vertical system for vaccine handling, distribution and administration from the national level down to the commune level. This is supported by a regulatory system that describes the procedures and standards relating to the provision of quality immunization and maintenance of cold chain.

There is an overall trend of increased financing for the immunization programme; however, commitment by national and local governments to operational financing (outreach, communication, transport, supervision and surveillance) remains highly variable, and is absent in some locations.

There is a long-term national immunization strategic plan in place. The Interagency Coordination Committee (ICC) meets once or twice a year to review progress and addresses the needs of NEPI. A joint external-internal NEPI review is conducted every five years; the most recent review was conducted in 2015. The major policy and operational challenges identified are increased complexity of programming associated with population movement and the growth of urban areas, the emergence of parallel EPI and non-EPI delivery systems as well as the challenge of operational financing in an increasingly decentralized context.

Vaccination coverage for all antigens under EPI vaccines is monitored by the NEPI Office under the GDPM from the commune to the national level on a monthly, quarterly and annual basis. Viet Nam has maintained a high level of vaccination coverage for all antigens in the immunization schedule. In 2015, Viet Nam achieved 97% vaccination coverage for both measles-containing vaccine (first dose) and diphtheria-tetanus-pertussis (third dose). The country also conducted periodic coverage surveys and assessments to monitor the quality of coverage data. Administrative data and coverage surveys indicate that there are subnational areas and communities with coverage significantly lower than the national average. This immunity gap may prove to be a potential risk for resurgence of vaccine-preventable diseases.

In addition to routine immunization, Viet Nam also conducts national vaccination campaigns, such as the National Measles-Rubella Vaccination Campaign in 2014–2015 that targeted 20 million children aged 1–14 years. In 2016, NEPI conducted another measles-rubella national vaccination campaign that targeted adolescents aged 17–18 years. Several small-scale outbreaks were well captured through the vaccine-preventable disease surveillance system, such as diphtheria and rubella in 2015–2016. Outbreak investigation and response measures including immunization led by national/regional EPI contributed to control in outbreaks.

In 2013, a number of fatalities were reported, coincidentally after vaccination with a pentavalent vaccine and Hep B birth dose vaccine. This resulted in a sharp decrease in vaccination coverage for both vaccines. Both vaccine coverages have gradually recovered after active communication efforts in building public confidence and trust in NEPI; however, HepB birth dose has the fourth lowest coverage (70%) among all countries as per 2015 coverage data. Management of risk perception of immunization and concern in adverse events following immunization has been a priority to ensure the success of the EPI, especially in urban areas.

There is a system in place to update cold chain equipment inventories on a quarterly basis across all levels, and in maintaining the cold chain throughout the vaccine delivery and storage process from the vaccine manufacturer right down to commune health centres. An assessment of Effective Vaccine Management (EVM) conducted in 2015 identified the need to upgrade cold chain equipment. NEPI/MoH developed an EVM comprehensive improvement plan, a maintenance and repair strategy for cold chain expansion, and a replacement plan after the assessment.

Recommendations for priority actions

- Increase immunization coverage in hard-to-reach populations (e.g. ethnic groups, migrants and other populations in remote areas) and in urban areas, with well-maintained safe immunization practices, ensuring outreach strategies in remote and urban areas.
- Strengthen policies, regulations and procedures to ensure operational financing for NEPI to sustain a robust EPI system in this transition period, and address disparities between provinces for operational financing.
- Secure resources to implement the NEPI communication plan, and strengthen tailored communication approaches for vulnerable populations, assessing their risk perception and addressing vaccination hesitancy.
- Upgrade, replace and maintain cold chain equipment in a sustainable manner in line with the comprehensive EVM improvement plan and national strategy.

Indicators and scores

P.7.1 Vaccine coverage (measles) as part of the national programme – Score 4

Strengths/best practices

- NEPI has a long term national level immunization programme plan and annual operational plan. The operational plan has been regularly updated, based on the changing situation.
- High vaccination coverage is maintained for the majority of antigens in the schedule under NEPI. All immunizations under the national immunization schedule are mandatory and free of charge.
- There are legal and regulatory frameworks in place to support the implementation of NEPI aligned with international standards.
- The national immunization schedule includes nine vaccines against 10 diseases. Plans are underway to introduce inactivated polio vaccine and rotavirus vaccine to the routine immunization schedule.

- NEPI is continuously monitored and evaluated by multiple mechanisms, including administrative reports, coverage surveys, ICC review and external EPI review.

Areas that need strengthening/challenges

- Even though vaccination coverage is high, reaching the most disadvantaged populations (such as residents in hard-to-reach areas, ethnic minorities, mobile population and migrants) is still a major challenge. There is no incentive mechanism in place to support routine vaccination in these high-risk groups.
- Government financing for NEPI has been increasing. However, human resources and the operational budget for NEPI fluctuates widely across localities with no standardized guidance on planning and financing for daily operations, including staff support for data gathering and reporting.

P.7.2 National vaccine access and delivery – Score 4

Strengths/best practices

- NEPI has maintained high vaccination coverage for the majority of antigens under the national immunization schedule.
- There is a well-developed system for maintaining cold chain throughout the vaccine delivery and storage process from the vaccine manufacturer right down to the commune health centres.
- There are legal and regulatory frameworks in place to support the implementation of NEPI aligned with international standards.

Areas that need strengthening/challenges

- The current vaccine cold chain equipment requires sustainable upgrading, replacement and maintenance.

DETECT

National laboratory system

Introduction

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

Target

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

Viet Nam level of capabilities

Viet Nam's laboratory system consists of nearly 900 laboratories working on human infectious diseases including public health diagnostics and reference laboratories, and clinical laboratories at different levels of the health care system. Of the 73 public health diagnostic and reference laboratories, four are national/regional public health laboratories (National Institute of Hygiene and Epidemiology (NIHE), Pasteur Institute Ho Chi Minh City (PI-HCMC), Nha Trang Pasteur Institute, Central Highlands Institute of Hygiene and Epidemiology), six are intermediate level, including two public health laboratories (National Hospital for Tropical Diseases in Ha Noi, Hospital of Tropical Diseases in HCMC), two non-governmental research laboratories (Oxford Welcome Trust labs in HCMC and Ha Noi), and two paediatric laboratories (at the National Pediatric Hospital and Children Hospital Number 2 in HCMC). There are 83 clinical laboratories, of which 40 are at central/regional levels.

Two national/regional public health laboratories (i.e. NIHE and PI-HCMC) are capable of performing diagnostic testing for the six core diseases required by IHR (2005) and the four priority diseases. NIHE and PI-HCMC are accredited to international standards (such as ISO) and enrolled in External Quality Assurance (EQA) programmes provided by WHO for selected pathogens. National EQA programmes exist for some pathogens (such as influenza, dengue and Vibrio cholerae). NIHE and PI-HCMC support confirmatory diagnostics requested by other laboratories, especially when BSL-3 laboratory conditions are required. NIHE and PI-HCMC send specimens to WHO collaborating centres/reference laboratories for confirmation of some emerging diseases. The Government of Viet Nam makes an effort to finance the national laboratory system but many important initiatives depend on external funding or technical support, which affects their sustainability. The proportion of laboratory-confirmed cases of the 42 notifiable diseases is not known but is presumed to be low. For class A diseases (human infection with avian influenza A (H5N1), cholera, plague) and newly emerging infectious diseases, laboratory confirmation is required for all reported cases – either conducted by national/regional laboratories or specimens and/or viruses sent to WHO collaborating centres/reference laboratories in Australia, Hong Kong Special Administrative Region (SAR), China, Japan and USA.

Recommendations for priority actions

- Strengthen laboratory-based surveillance.
- Improve functioning of local level (provincial, district) diagnostic laboratories including the capacity and accuracy of testing, and sample referral and transport system from peripheral to national/regional diagnostic laboratories for confirmation.
- Introduce advanced diagnostic methods, including effective modern point-of-care diagnostics, for early detection of suspected pathogens during outbreaks.
- Strengthen the capability for characterization of pathogens by use of modern molecular technologies, which can be utilized for outbreak investigations, surveillance, vaccine design and others.

Indicators and scores

D.1.1 Laboratory testing for detection of priority diseases – Score 3

Strengths/best practices

- There is a tiered laboratory system from the central/regional to the local (provincial and district) levels in both human and animal health sectors.
- The national laboratory system is capable of conducting up to four core tests in human and animal health sectors.
- Four national/regional public health laboratories, in particular NIHE and PI-HCMC, are capable of performing diagnostic testing for the six core diseases in IHR (2006) and other priority diseases (Zika, dengue, measles viruses and Neisseria meningitidis).
- Good collaborative mechanism to send specimens and/or viruses to WHO collaborating centres/reference laboratories in Australia, Hong Kong Special Administrative Region (SAR), China, Japan and USA, if necessary.

Areas that need strengthening/challenges

- Regular revisions and updates of specialized testing techniques in both human and animal health sectors are needed.
- National laboratory system including rapid referral and transportation of samples should be improved.
- Only some of the 42 notifiable diseases have SOPs for their laboratory diagnosis.
- The need to develop diagnostic algorithms for priority diseases.

D.1.2 Specimen referral and transport system – Score 3

Strengths/best practices

- Guidelines for specimen collection and transportation from the field to national/regional laboratories are available.
- SOPs are available for specimen collection, packaging and transport.
- Several independent disease-specific laboratory referral networks are in place (such as for acquired immune deficiency syndrome (AIDS)/human immunodeficiency virus (HIV), influenza-like-illness, malaria, severe acute respiratory infections (SARI), tuberculosis) and available on ad hoc basis during an outbreak.

Areas that need strengthening/challenges

- The system for rapid specimen transportation to national/regional laboratories for confirmation by specialized diagnostic testing should be further improved and efficiently implemented.

- Approval and endorsement of guidelines and SOPs, and staff training in SOPs for specimen collection, packaging and transport are needed to increase specimen referral from intermediate level/district laboratories.

D.1.3 Effective modern point-of-care and laboratory-based diagnostics – Score 3

Strengths/best practices

- There is a set of national diagnostic algorithms for most priority diseases in humans, such as dengue, EVD, HIV/AIDS, influenza and MERS.
- National laboratories can diagnose using modern technology, serology and polymerase-chain reaction.
- The National Centre for Veterinary Diagnosis (NCVD) can perform diagnosis for priority zoonotic diseases, including anthrax, leptospirosis, rabies and *S. suis* infection.
- All Department of Animal Health (DAH) laboratories are capable of testing for influenza A.

Areas that need strengthening/challenges

- The point-of-care diagnostic testing capacity is still weak at provincial and district level laboratories.
- The availability of high quality laboratory reagents is a challenge.

D.1.4 Laboratory quality system – Score 3

Strengths/best practices

- A system of licensing of health laboratories exists but it is voluntary.
- There are designated national laboratories with ISO and WHO accreditation.
- National EQA programmes exist for human health laboratories testing for dengue, influenza and *V. cholerae*.
- National EQA programmes exist for animal health laboratory testing for influenza.

Areas that need strengthening/challenges

- Only a few laboratories are able to attain and sustain ISO accreditation.
- Laboratory quality management can be further improved.
- Equipment is not maintained on a regular basis.
- Participation in and coordination of EQA programmes depends on the availability of external funding, and thus participation is not sustainable.

Real-time surveillance

Introduction

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

Target

Strengthened foundational indicator- and event-based surveillance systems that are able to detect events of significance for public health, animal health and health security; improved communication and collaboration across sectors and between sub-national, national and international levels of authority regarding surveillance of events of public health significance; improved country and regional capacity to analyse and link data from and between strengthened, real-time surveillance systems, including interoperable, interconnected electronic reporting systems. This can include epidemiologic, clinical, laboratory, environmental testing, product safety and quality, and bioinformatics data; and advancement in fulfilling the core capacity requirements for surveillance in accordance with the IHR (2005) and the OIE standards.

Viet Nam level of capabilities

Indicator- and event-based surveillance systems are in place in Viet Nam for the detection of diseases of public health importance. Since 2011, electronic reporting via web-based reporting software has been in place for 28 national notifiable diseases as guided by Circular No. 48/2010/TT-BYT. By 2014, this system was officially implemented at the district level in all 63 provinces nationwide and from the commune level in some provinces. Results from the assessment of Circular No. 48 implementation conducted in late 2014 in 12 selected provinces revealed many issues and areas requiring improvement, including: the software only allowing entry of aggregated number of cases and deaths; limited participation from the curative medicine sector including private clinics; preventive medicine staff having to visit hospitals to collect data to enter into software; and inadequate infrastructure with limited number of computers and limited Internet access at local level. As such under-reporting and sub-optimal data were considered as common issues.

The national notifiable disease reporting system underwent a major transition and was updated based on the findings from the assessment of Circular No. 48 and lessons learned from previous outbreaks. On 1 July 2016, Circular No. 54/2015 on guiding notification, reporting and declaration of communicable diseases came into effect, replacing Circular No. 48/2010. Under Circular No. 54, the following provisions have been made:

- Health facilities are required to report 42 nationally notifiable diseases through a web-based interface.
- Reporting responsibility is shifted from the preventive medicine sector to the curative medicine sector (hospital doctors).
- For 34 diseases, case-based information is required in addition to aggregate data, of which 20 diseases are to be reported within 24 hours and 14 diseases are to be reported within 48 hours from clinical diagnosis.

To complement indicator-based surveillance, several sentinel surveillance systems are in place for priority diseases, such as dengue, influenza and hand-foot-and-mouth disease.

GDPM has formally established an event-based surveillance system focusing on media screening since July 2014. Media screening is conducted daily at national and some regional levels, while ad hoc reporting from frontline staff to the supervisory level is conducted when unusual events are detected.

Since September 2016, a more comprehensive event-based surveillance system is being piloted in four provinces to allow early and systematic reporting of unusual events for both human and animal health events from health care facilities, laboratories and communities. This is the first time that unusual events have been well defined.

Viet Nam has established surveillance systems for the early detection of animal diseases. On 1 July 2016 a new veterinary law came into effect along with relevant circulars and guidelines. Mechanisms for surveillance have been strengthened including development of standard reporting forms permitting veterinarians at the district level to report disease outbreaks centrally. Notifiable disease reports are required immediately or routinely on a monthly basis depending on the nature and/or severity of disease. Laboratory-based surveillance for early detection and monitoring for avian influenza is conducted in live bird markets nationwide.

Recommendations for priority actions

- Formalize a mechanism to combine indicator-based and event-based surveillance across levels, programmes and sectors; reduce fragmentation and harmonize structures for surveillance at all levels.
- Facilitate the collection of information from health and non-health sectors, as well as routine data sharing to guide risk assessment for timely decision making.
- Secure and strengthen skilled human resources for surveillance in human health and animal health sectors, in particular at the peripheral level.
- Enhance data quality, timeliness and completeness of surveillance data.

Human health

- Strengthen the role of the EOC as a hub to receive indicator- and event-based surveillance data, and for analysing and using this data and other sources of information to conduct rapid risk assessment leading to informed decision making.
- Develop the role of EOC in detection, monitoring and control of health threats in non-epidemic situations by supporting the preparation of rapid risk assessments and conducting short regular review meetings with intersectoral representation.
- Strengthen the implementation of Circular No. 54 at all levels.
- Further strengthen links between curative and preventive health for surveillance, including the systematic production of epidemiological bulletins and feedback reports.

Animal health

- Provide basic and refresher training on surveillance, data management and reporting for staff, in particular at the peripheral level.
- Increase efficiency of the animal health surveillance system by streamlining and developing electronic reporting.
- Ensure programmatic and financial sustainability of animal surveillance.

Indicators and scores

D.2.1 Indicator- and event-based surveillance systems – Score 4

Strengths/best practices

Human health

- An appropriate legal framework is in place for indicator-based surveillance, including supporting technical documents.
- National roll-out of notifiable disease reporting via a web-based software application (Circular No. 54) commenced on 1 July 2016 after completion of the pilot phase.
- A basic event-based surveillance system is in place nationwide and an enhanced event-based surveillance system is currently being piloted in four provinces.
- Monthly epidemic intelligence and risk assessment meetings are conducted at the EOC.

Animal health

- The legal framework for animal disease surveillance is in place, with a reporting application in development; and laboratory reporting is taking place in high-risk areas.
- Event-based reporting system is in place.

Areas that need strengthening/challenges

Human health

- Data quality, timeliness and completeness of indicator-based surveillance data during the transition period.
- Information technology capacity (including the need for further training).
- Internet access at the local level.
- Event-based surveillance SOPs and guidelines finalization, integration across sectors, definition of criteria for event-based surveillance reporting.
- Epidemic intelligence and risk assessment meetings are not occurring routinely.

Animal health

- The finalization of the reporting tool for indicator-based surveillance. Synergies should be developed with the tool in place for indicator-based surveillance in the human health domain.
- Strengthen the investigation of events reported through event-based surveillance.

D.2.2 Inter-operable, interconnected, electronic real-time reporting system – Score 3

Strengths/best practices

Human health

- Surveillance system is in place and operating.
- Training is ongoing, focusing on curative health care workers involved under Circular No. 54 in the reporting of notifiable diseases.

Animal health

- An effective surveillance system is in place and training is ongoing.

Areas that need strengthening/challenges

Human health

- The web-based system is not fully harmonized with the medical record systems based in the hospital.
- In the absence of a computerized system for medical records harmonized across various hospitals, it has not been possible to fully connect the web-based surveillance reporting tool with the hospital systems.
- Some programmes (such as tuberculosis control programme), are using a separate reporting system for a specific disease, resulting in duplication of notification for the reporting staff.

Animal health

- There is a need for greater inter-operability of the web-based animal health reporting tool (currently being designed) with the human health reporting tool, which could facilitate improved information sharing between the two sectors.

D.2.3 Analysis of surveillance data – Score 3

Strengths/best practices

- Structured and standardized data is reported in electronic format.
- Surveillance data is analysed mainly at the national level and primarily when an outbreak has been identified. However, regular reports are produced by compiling surveillance data.
- In the animal health sector, data are available, including data originating from laboratories. A set of guidelines is available for five zoonotic diseases.
- Timely information is published for human and animal disease outbreaks.

Areas that need strengthening/challenges

- The capacity to conduct basic, regular and descriptive analyses of surveillance data collected needs to be strengthened, in particular at the local level.
- At national and provincial levels, more advanced analysis should be considered, and where feasible automated, using thresholds for alerts.
- Feedback reports should be produced for curative health care providers.
- The link between epidemiology and laboratory reporting needs to be strengthened.

D.2.4 Syndromic surveillance systems – Score 4

Strengths/best practices

- Syndromic surveillance system is in place and operating for five syndromes.
- External quality assurance scheme is in place for influenza-like illness and severe acute respiratory infections.

Areas that need strengthening/challenges

Human health

- There is a need to establish and/or strengthen syndromic surveillance for arboviruses (such as chikungunya, dengue, Zika).
- There is a need to develop electronic reporting and automated routine analysis using thresholds.

Animal health

- A basic national veterinary-based syndromic surveillance system is desirable.

Reporting

Introduction

Health threats at the human–animal–ecosystem interface have increased over the past decades, as pathogens continue to evolve and adapt to new hosts and environments, imposing a burden on human and animal health systems. Collaborative multidisciplinary reporting on the health of humans, animals, and ecosystems reduces the risk of diseases at the interfaces between them.

Target

Timely and accurate disease reporting according to WHO requirements and consistent coordination with FAO and OIE.

Viet Nam level of capabilities

GDPM has been the designated national IHR focal point in Viet Nam since 2006 and has demonstrated its capability to notify potential PHEIC to WHO and animal health events to OIE through both simulation exercises and real-life events. For animal health events also there are mechanisms to notify OIE with DAH being the focal point.

The national IHR focal point is familiar with Annex 2 of the IHR (2005) and has applied this during risk assessments in several situations. The functionality of the national IHR focal point has been tested through participation in the annual WHO IHR Exercise Crystal, as well as other national exercises jointly conducted by GDPM and WHO.

However, there is no official SOP to describe the process for decision-making and notification to WHO when a potential PHEIC is identified. Information sharing mechanisms are available for human health and other sectors for cross cutting issues, such as zoonotic diseases. For events involving animals, DAH is the agency with the responsibility to report to OIE. Food safety issues are reported by the INFOSAN focal point from VFA. For emerging disease events such as EVD, MERS and Zika outbreaks, the national IHR focal point calls for a meeting with the steering committee and conducts risk assessments with key stakeholders and international organizations.

Recommendations for priority actions

Priority recommendations

- Finalize and approve ToR for national IHR focal point (see indicator Prevent 2.1).
- Ensure efficient and timely reporting to WHO within the 24-hour timeframe.
- Develop SOPs for decision-making and reporting procedures to WHO for potential PHEIC.
- Define steps prior to official notification of suspected public health event, considering the IHR consultation process.

Recommendations linked to other areas of work that are relevant for reporting to OIE and WHO

- Strengthen systems for recognizing and reporting suspect events. Especially for the animal sector, develop reporting systems from lower to higher levels.

- Improve linkages to the hospital, animal health and laboratory sectors.
- Improve linkages between electronic reporting systems.

Indicators and scores

D.3.1 System for efficient reporting to FAO, OIE and WHO – Score 3

Strengths/best practices

- The national IHR focal point has been nominated, trained and empowered to function using an all-hazard approach.
- Reporting mechanisms have been tested during exercises and real-life events.
- Effective communication has been established with neighbouring countries.

Areas that need strengthening/challenges

- Operating procedures to support national IHR focal point duties should be developed.
- Operating procedures for reporting to WHO should include provision for consultation as laid out in IHR (2005) Article 8.

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

Strengths/best practices

- Viet Nam has demonstrated its capacity for reporting potential PHEIC to WHO and animal health events to OIE, in simulation exercises as well as in real situations.
- Intersectoral collaboration is established through Circular No. 16.

Areas that need strengthening/challenges

- The ToR of the national IHR focal point need to be finalized and approved.
- Operating procedures for decision-making and reporting of potential PHEIC need to be prepared.

Workforce development

Introduction

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

Target

States Parties should have skilled and competent health personnel for sustainable and functional public health surveillance and response at all levels of the health system and the effective implementation of the IHR (2005). A workforce includes physicians, animal health or veterinarians, biostatisticians, laboratory scientists, farming/livestock professionals, with an optimal target of one trained field epidemiologist (or equivalent) per 200 000 population, who can systematically cooperate to meet relevant IHR and Performance of Veterinary Services (PVS) core competencies.

Viet Nam: level of capabilities

There is a multidisciplinary public workforce in place to prevent, detect and respond to public health threats and emergencies in the country, especially at the district and provincial levels.

Viet Nam has a well-established medical education system and health training programmes to produce and provide training in most public health specialties within the country. There is an overall health workforce development strategy – the National Strategy for Human Resource Development Plan – that has existed for many years. The Human Resource Development of the Health Care System, 2015-2020 – a specific workforce development plan for the preventive workforce – was endorsed in 2015 and the Government of Viet Nam has started to implement this plan. It was noted that while the health workforce numbers were sufficient, the quality of staff particularly at the local level needed improvement. Additionally, staff retention in the preventive workforce is a concern that needs to be addressed.

Both short- and long-term field epidemiology training programmes have been established and three modalities of training are conducted including: a three-week short-course; a three month short-course; and a two year training course. Currently, the courses are not coordinated and a national programme does not exist. The short- and long-term courses require further strengthening, particularly linking training with practice, ensuring the right skill mix at the local level and providing an enabling environment for fellows to complete the two-year field epidemiology training course. The programme requires stewardship to improve the quality of training and promote adequate management of resources.

Recommendations for priority actions

- Strengthen local level capacity to identify and ensure that appropriate capacity and skill mix are available.
- Strengthen the quality of short- and long-term field epidemiology training courses, ensure financial sustainability of the programme and provide an enabling environment for field epidemiology training programme fellows to complete the course.
- Introduce an incentive mechanism and payment method for the preventive health care workforce to ensure recruitment and retention of properly qualified preventive staff in the system.

- Link the Human Resource Development of the Health Care System, 2015–2020 with training and long-term career development of preventive care professionals, such as public health officers, laboratory specialists and health toxicologists, to improve retention.

Indicators and scores

D.4.1 Human resources are available to implement IHR core capacity requirements – Score 3

Strengths/best practices

- There are a number of health workers in the preventive system, at different levels.
- The preventive health workforce at the central and provincial levels has relatively good capacity to undertake their mandate as per government request.
- In recent years, increasing number of experts and specialists (the preventive health workforce) were trained to work with other sectors.

Areas that need strengthening/challenges

- Public health capacity of staff at the district level (especially in remote and mountainous areas) needs strengthening and the appropriate skill mix of public health workers need to be addressed in these areas.

D.4.2 Field epidemiology training programme or other applied epidemiology training programme in place – Score 4

Strengths/best practices

- There are three modes of the field epidemiology training programmes in place.
- Over 500 public health staff from central, provincial and district levels have been trained.

Areas that need strengthening/challenges

- The quality of all three modalities of the field epidemiology training programme needs to further improve.
- The graduation rate of the two-year field epidemiology training programme needs to increase.
- The long-term course outputs should ensure that graduates become experts in outbreak investigation, are able to interpret laboratory tests and contribute to risk assessments to guide decision making.

D.4.3 Workforce strategy – Score 3

Strengths/best practices

- There is a national health workforce development plan in place for many years.
- A specific health workforce development plan for preventive health was developed and implemented in 2015.

Areas that need strengthening/challenges

- The income level of preventive care professionals is much lower than curative professionals, which results in preventive health workers moving to the curative side of health care.
- The long-term career development of preventive health care workers (such as public health specialists, laboratory specialists, health toxicologists) and health workforce retention should be included in the health workforce plan.

RESPOND

Preparedness

Introduction

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

Target

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

Viet Nam level of capabilities

Viet Nam has historically experienced a wide range of disease outbreaks and natural disasters and has vast experience in responding to these. Viet Nam, in response to many specific individual threats to human health, has also developed a number of threat-specific plans, including that for avian influenza, EVD and MERS. However, no national integrated multi-hazard preparedness and response plan as envisioned in the IHR (2005) and suggested in the recently endorsed APSED III currently exists. While an initial step in the right direction, the draft 2014 National Public Health Emergency Preparedness and Response Plan still has focuses on infectious diseases, does not include other threats to human health as specified under the IHR (such as chemical and radiation threats), and is not based on a prioritization of threats identified in an integrated national assessment of risk as called for in the WHO Framework for a Public Health Emergency Operations Centre. While some risk assessment and risk mapping is done, it is conducted by individual programmes rather than as part of a strategic national risk assessment of threats and hazards to public health. In addition, resource mapping, an essential element of the planning process that informs logistical preparedness efforts, is not conducted on a regular basis. On an annual basis, the State allocates part of its budget to support preparedness, surveillance and response activities; however, the contribution of external funds is largely from major donors, i.e. USA Government (Centers for Disease Control and Prevention (CDC), United States Agency for International Development (USAID), Defense Threat Reduction Agency (DTRA)), Asian Development Bank and the World Bank.

Recommendations for priority actions

- Conduct a strategic national multisector risk assessment of threats and hazards of public health concern to identify national priorities to inform multi-hazard planning; follow this up with risk mapping and resource mapping to support threat-specific planning.

- Expand on the draft 2014 National Public Health Emergency Preparedness and Response Plan to incorporate the resulting prioritized national public health threats (infectious disease threats as well as other IHR-specified threats to health), using a national planning approach that is appropriate and acceptable across stakeholder ministries and government agencies with responsibilities in these threat areas.
- Develop an updated master resource list/formulary for strategic stockpiling of critical materials needed to support the updated national emergency and response plan.
- Advocate and raise awareness for policy and decision-makers at all levels to prioritize and invest in preparedness, particularly between events.

Indicators and scores

R.1.1 Multi-hazard national public health emergency preparedness and response plan is developed and implemented – Score 2

Strengths/best practices

- Viet Nam has a number of existing threat-specific plans which when updated can likely serve as the basis for several of the annexes in the national multi-hazard public health preparedness and response plan. Points of entry are already mentioned in many of these plans, and can be consolidated into a single integrated points of entry annex in the national multi-hazard plan (see indicators PoE.1 and PoE.2).
- Various stakeholders collaborate with the MoH in planning and responding to outbreaks and other public health emergencies.
- Stockpiles are available for commonly occurring public health risks, such as influenza-like-illness.

Areas that need strengthening/challenges

- To fully meet the capacity requirements of indicator R.1.1, Level 2, the national multi-hazard plan that is currently focused on infectious diseases, needs to be expanded on the basis of the national risk assessment (see indicator R.1.2), finalized, and approved for distribution. This plan will need to be coordinated with other ministries to ensure that the MoH's public health response requirements are either included in the MoH's national multi-hazard plan, or are cross-referenced appropriately within the MoH's multi-hazard plan to the health annexes of the threat-specific preparedness and response plans under the domain of other ministries. MoH staff will also need to be trained in this multi-hazard plan as a replacement for the various individual public health plans currently in use, and the plan will need to be addressed within the MoH's multi-year exercise programme (see indicator R.2.3).
- Surge capacity resource mobilization/reallocation (especially for staffing resources, but applicable to materiel resources as well), while mentioned in several existing documents, needs to be clarified by identifying specific sources and procedures for obtaining these resources. A resource management annex to the multi-hazard plan, enabling the management of surge capacity resources, will also need to be developed to reach the next capacity level.
- The existing guidance for the national stockpile is almost 20 years old. MoH should consider pursuing an update of the guidance in order to ensure its alignment with risk-driven needs identified from a multi-sectoral strategic national risk assessment (see indicator R.1.2).

R.1.2 Priority public health risks and resources are mapped and utilized – Score 2

Strengths/best practices

- The existing practice of conducting a form of risk assessment within GDPM divisions to inform annual work plans is a good starting point for the development of integrated multisectoral strategic national

risk assessment that prioritizes public health threats to inform contingency planning efforts. Likewise, existing programme-specific risk maps can be used for development of prioritized national risk mapping efforts.

- GDPM has conducted training in how to conduct such a risk assessment.
- An electronic surveillance system linking national to subregional levels has been established facilitating timely reporting for rapid risk assessment

Areas that need strengthening/challenges

- To fully meet the capacity requirements of indicator R.1.2, Level 2, Viet Nam needs to conduct a strategic national risk assessment across all sources of health threats and hazards. Viet Nam should consider conducting this through an appropriate mechanism that engages all ministries that have a stake in public health planning in order to coordinate their technical response requirements with the public health response requirements assigned to the MoH. GDPM staff have already received training in the use of the Threat and Hazard Identification and Risk Assessment tool, or can use equivalent tools such as the WHO's Strategic National Risk Assessment tool, to complete this risk assessment.
- The resulting prioritization of threats from this risk assessment process needs to identify the resource requirements for responding to these threats, and map both the risks and resource requirements to inform the development of the integrated national multi-hazard plan (see indicator R.1.1).
- While the MoH has an existing guideline for national stockpile operations already in place, consideration should be given to updating this document to reflect current operational issues associated with procurement, storage, issuance and disposal of the needed resources identified in the integrated national multi-hazard public health preparedness and response plan resulting from the above actions. Such an update could potentially also trigger a need to update the national formulary and international access agreements to other stockpiles. Finally, such an update will also support the development of an integrated resource management plan (or annex incorporated into the national multi-hazards plan), which is an element of the next capacity level. Development of this resource management plan reinforces achievement of indicator R.4.1 as well.

Emergency response operations

Introduction

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

Target

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

Viet Nam level of capabilities

In 2013, Viet Nam formally established its national PHEOC and took the first steps in creating a public health emergency management programme within the MoH. Since then, the MoH has pursued the development of a number of documents that outline the policies, doctrine and guidelines for public health emergency management in Viet Nam. At the national level, GDPM has been assigned the responsibility for development of a national PHEOC, and has been dedicated space for this within the MoH with new equipment. Regional institutes have begun the process of developing the first level of subnational EOCs. Both the national and regional level EOCs have initiated development of EOC plans (EOC handbooks) as called for in the WHO Framework for a Public Health Emergency Operations Centre, and both have initiated training programmes for staff who will be assigned to both core Incident Management System (IMS) functions as well as to surge positions in these PHEOCs.

Recommendations for priority actions

- Complete and gain MoH approval for the first edition of the national level PHEOC handbook (see indicator R.2.2) focusing on:
 - the concept of operation for the national and subnational PHEOCs relative to other government EOCs, to include the roles and responsibilities of PHEOCs at the national and subnational levels and the explicit emergency management authorities of each upon activation;
 - the core IMS structure to be used in the PHEOC and the ToR for each of the key positions;
 - the strategic national risk assessment and the associated framework for the national multi-hazard public health preparedness and response plan (see previous focus area); and
 - an initial set of priority SOPs for watch-mode operations, activation of the PHEOC and response-mode operations.
- Establish a master roster of all personnel within the MoH who are expected to perform emergency management roles against the established IMS structure. This roster should include both those who are to be considered permanent staff of the PHEOC as well as surge staff from across the MoH who are expected to fulfil an IMS role only upon activation of the PHEOC (see indicator R.2.1). Assess public health emergency management training records and identify the individual training needs still required for this initial roster of personnel (for both position specific training and training on existing SOPs).

- Create a master public health emergency exercise programme for MoH staff that addresses both the collective training needs of the core and surge staff, as well as the progressive improvement needs of the national public health emergency management programme (see indicator R.2.3). Where possible:
 - improve multisectoral collaboration and participate in any national multisectoral exercises with a public health component;
 - enhance coordination across levels of government, and include in this programme any public health response exercises conducted by other levels of the MoH (including the regional institutes and other sub-national elements); and
 - enhance integration across public health domains, as well as combine operations-based exercises conducted by laboratories, points of entries, national IHR focal points, and other public health functions (see recommendations regarding exercise conduct under other JEE indicators).
- Update the master case management guidelines based on the strategic national risk assessment.

Indicators and scores

R.2.1 Capacity to activate emergency operations – Score 2

Strengths/best practices

- GDPM's draft PHEOC handbook currently identifies watch, alert and response modes of operation, and includes a draft SOP for activation of the EOC. This draft SOP includes a description of the staffing model to be followed in each mode, and a number of GDPM staff have received training on how to activate an EOC and shift between these modes of operation.
- Display of priority disease data within the EOC in the form of dashboards that capture a number of essential elements of information. This practice is also in use in NIHE and is anticipated to be duplicated in the other three regional institutes. The draft PHEOC handbook is also anticipated to cascade its "concept of operations" content to PHEOC handbooks being drafted in the regional institutes, ensuring consistency of operations and enabling smooth flow of essential elements of information and critical information requirements.

Areas that need strengthening/challenges

- The PHEOC handbook has not yet been completed, approved and disseminated. Because of this, EOC staff (core or surge) cannot be fully trained in the PHEOC SOPs (one of the elements of Level 3 of this indicator), including the SOP for activating a response (an element of Level 4 of this indicator). In addition, EOC staff (core or surge) cannot be certified as having received position-specific training, since the IMS structure for the PHEOC is not approved (another element of Level 3 of this indicator) (see also indicator R.2.2 for further effects.)
- Current staffing of the PHEOC is on an "additional duty" basis within the GDPM; and no dedicated core PHEOC staff are currently available to focus on preparedness functions or to fill core PHEOC positions upon activation. All IMS positions must be filled with surge staff, which makes advancement beyond Level 3 in the emergency response operations indicators difficult. No training programme exists, and no trainers have been identified to sustain training of future staff.

R.2.2 Emergency operations centre operating procedures and plans – Score 3

Strengths/best practices

- A PHEOC handbook has been drafted, but has not yet been approved. The IMS structure has some parallels to the IMS structure for public health emergencies endorsed in the WHO Framework for a Public Health Emergency Operations Centre document.

Areas that need strengthening/challenges

- Initial ToR for key IMS positions found in the WHO Framework for a Public Health Emergency Operations Centre document have been drafted, but to fully meet the capacity requirements of Level 3 of this indicator, these need to explicitly address all of the functions listed in the JEE tool.
- The draft nature of the PHEOC handbook affects further advancement of this indicator. In addition, within some of the other JEE areas, there are plans and SOPs that need to be developed or updated. The PHEOC handbook is an appropriate vehicle for consolidating these documents, which would improve the integration and coordination of response functions.

R.2.3 Emergency operations programme – Score 3

Strengths/best practices

- Viet Nam has a history of participating in a number of public health emergency response exercises, both discussion based as well as operations based, and the MoH has these documented since 2013. These exercises fully meet the requirements for Level 3 of this indicator.

Areas that need strengthening/challenges

- Although there is a draft SOP for activation of the national PHEOC contained within the draft PHEOC handbook, this SOP has not yet been exercised, and no exercise to date has demonstrated the ability to activate the PHEOC within 120 minutes of identification of a public health emergency (Level 4 of this indicator).
- No dedicated exercise programme for the national PHEOC or for MoH's public health emergency management programme currently exists. While exercises are conducted in other public health areas, these are not integrated with exercises involving PHEOC functions, limiting the utility of the exercises. There is also currently an absence of a continuous improvement programme that is linked to the lessons learned and corrective actions identified from after-action reviews.

R.2.4 Case management procedures are implemented for IHR relevant hazards – Score 3

Strengths/best practices

- Case management guidelines are currently available for epidemic diseases within Viet Nam, and procedures exist for the management and transport of potentially infectious patients in the community and at points of entry.

Areas that need strengthening/challenges

- To fully meet the capacity requirements of Level 3 of this indicator, the full set of case management guidelines still need to be mapped against the priority public health threats identified in a strategic national risk assessment of public health threats (see indicator R.1.2), which includes the other IHR hazards (i.e. chemical, radiological, zoonotic and foodborne). This strategic national risk assessment and mapping would then be included as components in the PHEOC handbook (see indicator R.2.2).
- Further advancement of this indicator will require demonstration of case management, patient referral and transportation and management of potentially infectious patients according to the SOPs developed for these functions; all of these SOPs would also be components of the PHEOC handbook.

Linking public health and security authorities

Introduction

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

Target

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

Viet Nam level of capabilities

Viet Nam has a strong system of centralized steering committees, augmented by a system of bilateral coordination mechanisms between individual ministries, which enables high-level collaboration between sectors. Collaboration between the public health and security sectors has been demonstrated through a few joint trainings and exercises, but these have largely been limited to points of entry rather than to the sharing of information regarding the deliberate use of a bioterrorism agent.

At the operational level, information sharing between sectors tends to be passive rather than proactive. No critical information requirements exist that trigger automatic notification of other relevant sectors, and no plans or SOPs exist to guide how detection of bioterrorism events is to be coordinated, how relevant information sharing is to be conducted, or how joint investigations are to be conducted. There are no designated liaison officers and information-sharing focal points are appointed on a case-by-case basis.

Recommendations for priority actions

- Develop SOPs for each relevant ministry involved in the detection, reporting, investigation and response to bioterrorism incidents (starting with the MoH), which identify the critical information requirements of each ministry that normally collects such data, and how automatic sharing of information among the relevant ministries is to be conducted. A good vehicle for this SOP would be the current draft PHEOC handbook.
- Identify liaison officers by name in each sector and register them with the EOCs of the MoH and other ministries to accelerate the timeliness of requests for information and subsequent information sharing. Include a roster of these liaison officers in the PHEOC handbook.

Indicators and scores

R.3.1 Public health and security authorities (e.g. law enforcement, border control, customs) are linked during a suspect or confirmed biological event – Score 2

Strengths/best practices

- Detailed legal policy documentation exists within Law 23 on anti-terrorism, along with several “decision documents” establishing various steering committees and coordinating mechanism documents outlining bilateral coordination between the specific ministries. The membership of these steering committees,

as well as the identification of relevant departments that would be involved in bioterrorism incident detection, reporting, investigation and response, constitute the equivalent of having identified focal points. This collective documentation also constitutes the equivalent of MoUs between sectors, and in this regard, Viet Nam's capacity exceeds Level 2 criteria for this indicator.

Areas that need strengthening/challenges

- To fully meet the capacity requirements of indicator R.3.1 (Level 2), specific triggers for information sharing still need to be identified. SOPs which define the critical information requirements that would serve as such triggers, and which define the detailed procedures for the sharing of such information upon identification of such triggers, still need to be developed.
- Identification of designated liaison officers from both sectors to enable timely sharing of information would further strengthen this capacity by decreasing the time needed to identify specific points of contact within each ministry. The MoH should also consider developing and conducting exercises at both the individual ministry level as well as at the multisectoral level, within the context of a multi-year training and exercise programme managed by the MoH's PHEOC, in order to advance this capacity to the next higher level.

Medical countermeasures and personnel deployment

Introduction

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

Target

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

Viet Nam: level of capabilities

There is currently no overarching plan that describes and formalizes procedures for sending and receiving medical countermeasures and health personnel during emergencies. In some specific disease emergency response plans, however, procedures for receiving and sending medical countermeasures or health personnel are included.

Based on related government legislation, the established multisectoral committee for Disease Outbreak Prevention and Response has full responsibility to send and receive medical countermeasures and health personnel from international communities. The current system demonstrated its ability to deploy public health personnel to support the EVD outbreak in West Africa.

Recommendations for priority actions

- Develop an overarching plan on sending and receiving equipment, supplies and human resources during public health emergencies, which should clarify the roles of different ministries and levels of government. Clear responsibilities and timelines are needed.
- Expedite the process of receiving equipment and supplies from other countries or donors during public health emergencies including taxation of goods. This may be captured in the plan.
- Establish a mechanism on the process of declaring emergencies/outbreaks based on a risk assessment to guide decision making which will trigger the deployment of medical equipment, supplies and human resources, including when and how to request for international support.

Indicators and scores

R.4.1 System is in place for sending and receiving medical countermeasures during a public health emergency – Score 2

Strengths/best practices

- The procedures for receiving or sending medical countermeasures are described in some disease specific response plans.
- Some simulation or table top exercises have been conducted.

- Medical goods were received including for preparedness activities during the EVD outbreak in West Africa.

Areas that need strengthening/challenges

- No overarching plan exists for medical countermeasures and personnel deployment.
- Delays in procurement due to legislation (including financial contributions from international organizations).

R.4.2 System is in place for sending and receiving health personnel during a public health emergency – Score 2

Strengths/best practices

- Public health personnel from Viet Nam were deployed to support multiple malaria outbreaks and the EVD outbreak in West Africa.
- Mechanisms are in place to expedite the visa processing time for incoming international experts during a public health emergency.
- Some simulation or table top exercises have been conducted.

Areas that need strengthening/challenges

- No overarching plan exists for medical countermeasures and personnel deployment.

Risk communication

Introduction

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. An essential part of risk communication is dissemination two-way exchange of information with the public about health risks and events, such as outbreaks of diseases. For any communication about risk caused by a specific event to be effective, the social, religious, cultural, political and economic aspects associated with the event should be taken into account, as well as the voice of the affected population. Communications of this kind promote the establishment of appropriate prevention and control action through community-based interventions at individual, family and community levels. Making sure that basic information is accessible through the appropriate channels is essential. Communication partners and stakeholders in the country need to be identified, and functional coordination and communication mechanisms should be established. In addition, the timely release of information and transparency in decision making are essential for building trust between authorities, populations and partners. Emergency communications plans need to be tested and updated as needed.

Target

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

Viet Nam: level of capabilities

Although the concept of risk communication is relatively new to Viet Nam, the country has been actively making progress in improving its risk communication capacities. A risk communication plan was developed in 2013 for the first time and will be further strengthened for the period 2017–2021.

A SOP for risk communications, developed in 2015, is being utilized before and during public health emergencies. However, there is a need to establish a fully operational mechanism for systematically strengthening IHR (2005) core capacities related to risk communication.

The risk communication system in Viet Nam has been tested in a number of real-life events including the measles outbreak in 2014 and Zika cases in 2016. In addition, an EVD exercise in 2014 was conducted to evaluate the capacity of risk communication. After-action reviews and exercises to improve risk communication capacities are needed.

Internal and partner coordination within MoH, among national and international stakeholders, and response agencies is in place, including between the health sector and key civil society organizations.

There are several units in the MoH with a designated communication focal point. This includes the Communication Department of MoH (press information), the Communications Department of GDPM (outbreak communication), and the National Centre for Health Education and Communications (behaviour change communications). Various departments within the MoH operate their own websites and Facebook accounts.

Community engagement occurs through the provincial and district centres for health education and communications. These centres are responsible for social mobilization in the event of a public health emergency, but social mobilization is still often a one-way dialogue. With no designated focal point at the commune level, more needs to be done to foster behavioural change in communities.

Rumour management takes place through media monitoring of multiple media sources. Media monitoring supports the communication team in responding to rumours and misinformation in a timely manner. However, there is a gap in the capacity to evaluate the effectiveness of risk communication interventions.

Recommendations for priority actions

- Strengthen coordination among the departments of MoH (particularly those with major responsibility in the area of communications) and with other ministries to disseminate accurate, relevant and consistent information to the right people at the right time. This includes sharing information during all phases of an event and among different sectors.
- Develop an integrated website/social media channel so that the public in Viet Nam can easily access one website at any time to obtain information on public health concerns including public health-supporting portals from several departments and social media accounts.
- Conduct research on the effectiveness of risk communication to strengthen evidence-based risk communication activities for the five technical area indicators, where feasible.
- Consider an appointed spokesperson system for more public-centric risk communication (although the institution of current designated spokesperson of MoH is functioning well). As an intermediate step, establish a mechanism to develop and share talking points across various designated spokespersons.

Indicators and scores

R.5.1 Risk communication systems (such as plans and mechanisms) – Score 3

Strengths/best practices

- Risk communication has been a main priority of Viet Nam's national five-year (2011–2016) action plan and it has been improving its risk communication system and functions during this period, such as establishing a dedicated team to work on risk communications and personnel training.
- A risk communication plan was implemented during 2013–2016, and will be renewed in 2017 for another five years.

Areas that need strengthening/challenges

- Coordination and cooperation within the MoH to ensure a public-centred approach for risk communication, especially for disseminating appropriate health messages during emergencies requires improvement.

R.5.2 Internal and partner communication and coordination

Strengths/best practices

- There is a mechanism to coordinate risk communication within the ministries, civil society organizations and international partners, such as WHO.
- A risk communication network exists with hospitals and other medical facilities and information during public health emergencies or in times of peace can be disseminated in a timely manner.
- Coordination of communication has been tested through multiple events such as the measles outbreak in 2014 and Zika cases in 2016.

Areas that need strengthening/challenges

- Intersectoral communication and coordination with partners and stakeholders should be strengthened to improve communication on a regular basis including formal/informal and online/offline gatherings.
- Sufficient and sustainable financial and personnel resources are required to strengthen the core network.

R.5.3 Public communication – Score 3

Strengths/best practices

- There are dedicated units within the MoH to communicate with the public on a variety of platforms, such as traditional media, social media and government websites.
- A SOP for risk communication including detailed principals – announcing early; ensuring transparency; listening; ensuring to build trust – was developed in 2015 and is being implemented.
- Messages are disseminated in a timely manner and in five local languages (including to ethnic communities in remote areas).

Areas that need strengthening/challenges

- Geographical barriers remain, which limits information outreach to remote areas, and could be reduced through support in the form of human and financial resources.
- A mechanism to systematically and regularly disseminate information in a tailored approach to encourage positive behaviour change in communities is needed. This could possibly be done by having a common source of information for the public such as an integrated website.
- Coordination between partners requires further strengthening to ensure a consistent message from all stakeholders and to avoid misinformation and rumours.

R.5.4 Communication engagement with affected communities – Score 2

Strengths/best practices

- There is a mechanism under which health workers are designated for communication on health promotion at the central and local levels.
- Development and implementation of a SOP for social mobilization and community involvement.

Areas that need strengthening/challenges

- A more systematic mechanism needs to be in place to better respond to health emergencies by sharing experiences of risk communication experts.
- Limited resources are available to provide an environment to facilitate positive behaviour change of communities during the early stages of a public health emergency.
- Mechanism to evaluate the effectiveness and challenges in communicating with the public needs to be developed.

R.5.5 Dynamic listening and rumour management – Score 3

Strengths/best practices

- The communication team currently conducts media monitoring on a daily basis to detect rumours and misinformation so actions can be taken promptly.
- There is a formal mechanism for making requests to handle misinformation before the communication team sends out messages to correct misinformation.

Areas that need strengthening/challenges

- Rumour disproval as well as correction mechanism and analysis need to be set up and implemented for the purpose of assessing the effectiveness of rumour response.
- Coordination between partners needs further strengthening to ensure a consistent message from all stakeholders and to avoid misinformation.

OTHER IHR-RELATED HAZARDS AND POINTS OF ENTRY

Points of entry

Introduction

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

Target

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

Viet Nam: level of capabilities

Viet Nam shares land borders with three other countries: Cambodia, China and Lao People's Democratic Republic, and has seven points of entry designated as IHR points of entry. The designated points of entry comprise three international airports, three ground crossings and one seaport and cover north, central and south regions of Viet Nam. Legislation to support IHR implementation at all points of entry exists. Additionally, there are agreements with neighbouring countries on sharing information in relation to public health threats and the cross border movement of people and goods.

While all points of entry have access to trained personnel and appropriate medical services, including diagnostic facilities for rapid assessment and care of ill travellers, the level of IHR (2005) implementation varies with the airports being better equipped. There are plans to address resource requirements at all points of entry. Multisectoral coordination committees have been formed at designated points of entry and include border health, animal health, airports authority and security authorities. Designated airports have rodent and vector control programmes within their boundaries, and local councils are responsible for areas outside the airport boundaries. To date, EVD and MERS exercises have been conducted in the two international airports in the north and south regions of Viet Nam to test the functionality and coordination at these points of entry.

While all points of entry have developed individual disease prevention and response plans, a major challenge is the lack of a national public health emergency contingency plan for points of entry.

Recommendations for priority actions

- Develop and operationalize an all-hazards national public health emergency preparedness and response plan to include points of entry (see indicator R.1.1).
- Ensure that national guidelines and SOPs are developed, available, and up-to-date for all relevant technical and operational aspects at all points of entry, both designated and non-designated.

- Conduct comprehensive assessment of all points of entry to determine their resource needs, and develop a sustainably funded action plan to strengthen IHR (2005) obligations at points of entry. Designated points of entry should be prioritized.
- Build and maintain close communication, collaboration and coordination among all points of entry as well as stakeholders at all levels and in all relevant sectors, such as through exercises.

Indicators and scores

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

Strengths/best practices

- Legal system and technical documents are available to support the implementation of IHR (2005) requirements at the designated points of entry.
- Coordination committees have been formed at the designated points of entry including health, security, airports authority and customs.
- Designated points of entry have access to trained personnel and appropriate medical services, including diagnostic facilities, for rapid assessment, care and transportation of ill travelers.
- Points of entry staff have been trained on inspection procedures to ensure safe environment at points of entry facilities.
- Web-based reporting software for border health quarantine activities is available at points of entry.

Areas that need strengthening/challenges

- Strengthen human resources and their capabilities, and standardize equipment, plans and SOPs across all points of entry.
- Improve information exchange about disease prevention among bordering countries.
- Ensure effective and rapid communication between points of entry and the national health surveillance system.

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

Strengths/best practices

- Ill travelers are detected and evaluated through multiple approaches (such as fever screening, self-referral, reports from carriers or points of entry personnel).
- Trained personnel and appropriate facilities are available at points of entry for evaluation of ill travelers. A system has been exercised through real-life events (such as identifying suspected cases of EVD).
- Exercises have been held at two points of entry (both airports) and with neighbouring countries.
- Viet Nam already meets several of the capabilities for Level 4 in the following ways: referral system is in place for safe transfer of ill travellers, and evaluation of the effectiveness of points of entry in responding to public health events has been exercised and tested through real-life events.

Areas that need strengthening/challenges

- To fully meet the capacity requirements of PoE.2 score 2, a master contingency plan for public health emergencies occurring at points of entry needs to be developed and disseminated to stakeholders.
- Develop and implement relevant technical and operational guidance for points of entry, including SOPs and guidelines.
- Exercises to be carried out at all designated points of entry, and expanded to include other selected points of entry. Results should be published and used to update guidelines and SOPs.

- Strengthen cross-border collaboration with neighbouring countries.
- Establish MoUs between public health authorities and other agencies for reducing the risk at points of entry due to non-infectious public health emergencies.
- Develop and implement a communication strategy for staff, travellers and border communities to enhance cross-border health security through increased visibility and accessibility to health- and event-related messages.

Chemical events

Introduction

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

Target

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

Viet Nam: level of capabilities

Viet Nam has an extensive system of policy and legal documents that outline the responsibilities of organizations related to chemical event monitoring, reporting, assessment and response. Monitoring and response capacity is mainly focused and coordinated at the provincial level, although some national capacities do exist. The need for national level plans is recognized, and these are being generated. Likewise, the need for better multisectoral coordination above the provincial level is also recognized. While some laboratory analysis capacity for toxic exposures is in place at the national level, this is recognized as being inadequate. Across all levels of government, training of staff in the management of chemical events is not standardized or routinely carried out.

Recommendations for priority actions

- Establish communications mechanisms for routine sharing of information across ministries that have a stake in chemical monitoring and chemical event response management.
- Incorporate chemical threats in a national public health preparedness and response exercise programme (see indicator R.2.3), to include exercises of response coordination across multiple ministries.
- Establish a training programme for public health staff engaged in managing chemical events; include staff at multiple levels of government from the local to national.
- Create a centrally accessible database containing toxicology data for chemicals regulated within Viet Nam which would be available for use by clinical and response management staff; and link appropriate chemical exposure case management guidelines to this database as well.
- Strengthen national capacity for rapid toxicology screening and confirmatory testing to support chemical event response management.

Indicators and scores

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

Strengths/best practices

- Environmental monitoring is routinely carried out for local threats at the facility and provincial levels by a number of different organizations. Response coordination across sectors is particularly strong at the provincial level. Two national laboratories are capable of testing for multiple toxins, and can accept

samples from across the country. Poison control centres exist in Hanoi and HCMC. Case management guidelines exist for care of victims of chemical events.

Areas that need strengthening/challenges

- Although local monitoring is conducted, reporting is dependent on the organizations that produce, store, or use chemicals to report any releases. There is no national level surveillance system for chemical events. The integration of surveillance sources operating under different authorities needs to be addressed in order to provide comprehensive public health situational awareness at the national level.
- National level guidelines on surveillance and risk assessment for potential exposures from different sources are absent and need to be developed. Laboratory testing is currently only done for clinical care purposes; it is not linked to an integrated public health surveillance network and does not utilize a rapid toxicology screening process. There is no national database for toxicology, and existing data is not linked to clinical care guidelines.

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

Strengths/best practices

- Viet Nam is a signatory to a number of international conventions regulating chemicals, and has a number of legal/policy documents in place assigning responsibilities for various functions related to monitoring, assessment, and response to chemical events. MoIT is designated as the lead ministry for surveillance of chemical events, and other ministries are assigned supporting roles. A strong system for coordinating responses is in place at the local facility and provincial levels. Over 50% of provinces have response plans, approved by provincial committees, and MoIT also routinely reviews facility level response plans, which are required to be updated upon any significant change in facility operations.

Areas that need strengthening/challenges

- While mechanisms exist for local coordination of response activities, there is no integrated chemical event response plan that includes public health components at the national level – either in MoIT or as an annex to an MoH multi-hazard preparedness and response plan (see indicator R.1.1). In addition, no SOPs have been approved for conducting risk assessments, at any level of response, which would be required as a result of the detection of a chemical release.
- Although exercises have been conducted in recent years, these have all been at the local level and have not tested national level coordination of capacities related to the management of chemical events. Chemical events are currently not included in the exercise programme of the MoH (see indicator R.2.3).

Radiation emergencies

Introduction

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

Target

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

Viet Nam: level of capabilities

The risk of radiation emergencies in Viet Nam is relatively low compared to other threats to public health. While there has been no radiation emergency in the past five years, Viet Nam has radiation sources, such as a research reactor as well as 40 active sources in health facilities across the country. As a signatory to several international treaties related to the detection and response to radiation emergencies, Viet Nam has mechanisms in place at multiple levels of government to deal with radiation emergencies, starting with a well-defined legal structure that assigns roles and responsibilities for radiation emergencies.

The Viet Nam Agency for Radiation and Nuclear Safety (VARANS) within the MoST, is the government body primarily responsible for preparing for and responding to any radiation emergency from both domestic and external sources. Response plans exist at the facility level as well as for transportation accidents, and coordinating mechanisms are in place at the provincial and national levels. A response plan has been drafted at the national level, but is not yet approved. However, no integrated national radiation surveillance system exists; guidelines for risk assessment, reporting and investigation are lacking; no training standards are in place to train clinicians; and equipment for clinical treatment of radiation emergency victims is inadequate.

Recommendations for priority actions

- Establish an integrated national radiation monitoring and reporting system that links radiation surveillance functions conducted within the human health, animal health and environmental sectors. Radiation monitoring activities related to food safety, consumer goods safety, and points of entry elements should be explicitly included in this system as well.
- Enhance and publish national guidelines, by building on the existing national legal documents on radiation emergencies, for the management of radiation emergencies. Include guidelines for risk assessment, reporting, event confirmation and notification, and investigation. Where appropriate, these updated guidelines should clarify the roles and responsibilities of PHEOCs and other sectoral EOCs in the conduct of these activities.
- Develop a national inter-ministerial strategic plan for further enhancement of this capacity area, to include:
 - procurement of necessary equipment and other materials needed to properly treat victims of radiation emergencies at the designated reference hospitals;

- development of national training standards for clinicians and the provision of such required training to expand the pool of personnel available to provide such treatment; and
- creation of a sustainable training and exercise programme for a national multidisciplinary/multisectoral radiation-focused rapid response team.

Indicators and scores

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

Strengths/best practices

- Viet Nam has a well-documented legal structure for radiation safety and management of radiation emergencies, with laws, decrees and circulars that clearly outline roles and responsibilities of the MoST as the lead ministry for coordination of preparedness and response activities for radiation emergencies. Preparedness activities are much devolved, with facilities expected to conduct their own risk assessments and provinces authorized to approve response plans.
- Viet Nam has a history of proactively preparing for potential radiological threats, such as mobilizing resources to monitor for potential radiation threats during the Fukushima disaster. A recent preparedness has been in relation to potential hazards associated with both a future domestic nuclear reactor as well as a Chinese nuclear reactor near the Viet Nam border.
- The MoST gathers data on radiation events and radiation safety activities and publishes an annual report. Staff from multiple levels of government are trained with international organizations through MoST partnerships. Twenty provinces have approved provincial radiation response plans and conducted radiation response exercises.

Areas that need strengthening/challenges

- No systemic information sharing is currently conducted between radiation safety/response authorities and public health authorities. Surveillance system components are fragmented and depend on local/facility reporting and reporting of contamination triggered by environmental or food safety monitoring activities. Monitoring of consumer products is not routinely done. International ports of entry have only recently installed radiation monitors, and these are not integrated with other monitoring sources into any kind of national surveillance system.
- No national health assessments of radiation threats have been conducted in the past five years. Emergency response centres at the local/provincial level are inadequately equipped to meet the needs of their response plans. The number of staff who received the necessary training to properly provide treatment for radiation injuries is inadequate, and few hospitals have been designated as radiation treatment reference hospitals. Drills and other exercises are affected due to an unstable funding base.
- Although a national response plan for radiation and nuclear emergencies has been drafted, it has not yet been approved and distributed for use. The MoH does not have a nuclear/radiological component within this national response plan, nor does it have a radiation emergency annex within its own public health emergency response plan. No national standards for event management exist. Although there is a national classification of different risks, there is no documented procedure to formalize the risk assessment process. To fully meet the capacity requirements of Level 3 for this indicator, a SOP for this risk assessment process still needs to be developed, along with SOPs for national reporting, for event confirmation and notification, as well as for investigation of radiation emergencies.

RE.2 Enabling environment is in place for management of radiation emergencies – Score 2***Strengths/best practices***

- Legal documents – to include the law on atomic energy and various decisions, directives and circulars – exist to outline the roles and responsibilities of different organizations for radiation safety and radiation emergency response. A draft national response plan exists, and organizational focal points have been identified.

Areas that need strengthening/challenges

- To achieve the capacity requirements of Level 3 for this indicator, the draft national response plan, along with strategies for national and international transport of radioactive materials and samples, as well as for waste management, needs to be approved and disseminated. Because this plan has not been finalized, the procedures for functional coordination and communication between national authorities have not yet been documented, and no national level exercises have been conducted. A mechanism to identify adequate financing for responses to radiation emergencies should also be developed.

Appendix 1: Viet Nam assessment background

Mission place and dates

Viet Nam 28 October–4 November 2016

Mission team members

International experts

- Haruo Watanabe, Former Director-General, National Institute of Infectious Diseases, Japan (Team Lead)
- Peter Rzeszotarski, Capacity Development Branch Chief, Division of Emergency Operations, Centers for Disease Control and Prevention, USA
- Denis Coulombier, Head, Surveillance and Response Support, European Centre for Disease Prevention and Control, Sweden
- Kisoo Park, Director, Office of Communication, Korea Center for Disease Control and Prevention, Republic of Korea
- Stephanie Williams, Medical Adviser, Office of Health Protection, Department of Health, Australia
- Babatunde Olowokure, Coordinator, Emerging Disease Surveillance and Response (ESR), Division of Health Security and Emergencies (DSE), WHO Regional Office for the Western Pacific (WPRO)
- Jun Gao, Coordinator, Division of Health Systems, WPRO
- Luo Dapeng, Team Leader, Emerging Disease Surveillance and Response, WPRO
- Stéphane De La Roque, Technical Advisor-Team Lead, Global Capacity, Alert and Response Department, World Health Organization (seconded from OIE)

National experts

- Tran Dac Phu, Director, General Department of Preventive Medicine (GDPM), Ministry of Health (MoH) (Team Lead)
- Tan Quang Dan, Deputy Director General, GDPM, MoH
- Vu Ngoc Long, Head of Border Health Quarantine Division, GDPM and a member of national IHR focal point, GDPM, MoH
- Nguyen Thi My Ha, Staff of Border Health Quarantine Division, GDPM and a member of national IHR focal point, GDPM, MoH
- Le Van Tru, Staff of Viet Nam Administration of Medical Service (VAMS), MoH
- Pham Hung, Head of Communicable Disease Control Division, GDPM, MoH
- Doan Huy Dung, Staff of Food Poisoning Division, Viet Nam Food Administration, MoH
- Nguyen Xuan Tung, Head of Vaccine and Laboratory Division, GDPM, MoH
- Nguyen Thi Bich Thuy, Staff of Border Health Quarantine Division, GDPM and a member of national IHR focal point, GDPM, MoH
- Nguyen Thi Huong, Staff of Communicable Disease Control Division, GDPM, MOH
- Nguyen Thanh Dong, Head of Communication and Network Direction Division, GDPM, MOH

- Hoang Van Ngoc, Staff of Border Health Quarantine Division, GDPM and a member of National IHR Focal Point, GDPM, MOH
- Vu Thi Huong, Official, Department of Chemical, Ministry of Industry and Trade
- Dinh Ngoc Quang, Official, Vietnam Agency for Radiation and Nuclear Safety
- Nguyen Ngoc Huynh, Official, Vietnam Agency for Radiation and Nuclear Safety

Observer

- Daniel Stowell, Public Health Advisor, Division of Emergency Operations, Centers for Disease Control and Prevention, USA

WHO Technical Staff

- Masaya Kato, Communicable Disease Group Coordinator, Office of the WHO Representative in Viet Nam
- Satoko Otsu, Team Leader, Emerging Disease Surveillance and Response (ESR), Office of the WHO Representative in Viet Nam
- Nguyen Thi Phuc, Technical Officer, ESR, Office of the WHO Representative in Viet Nam
- Vu Quang Hieu, Technical Officer, Environmental Health, ESR, Office of the WHO Representative in Viet Nam
- Le Van Tuan, National Programme Officer, ESR, Office of the WHO Representative in Viet Nam
- Socorro Escalante, Health System Group Coordinator, Office of the WHO Representative in Viet Nam
- Alexandre Costa, Technical Officer (Laboratory), ESR, Office of the WHO Representative in Viet Nam
- Makiko Iijima, Technical Officer, Expanded Programme for Immunization (EPI), Office of the WHO Representative in Viet Nam
- Do Thi Hong Hien, Epidemiologist, ESR, Office of the WHO Representative in Viet Nam
- Emmanuel Eraly, Technical Officer (Health Information and Technology), Office of the WHO Representative in Viet Nam
- May Chiew, Technical Officer, ESR, DSE, WPRO

Objective

To evaluate Viet Nam's capacities and capabilities in relation to the 19 technical areas of the IHR JEE tool to inform multi-year national action plans using APSED III as a framework.

The JEE Process:

The Joint External Evaluation process is a peer to peer review. As such, it is a collaborative effort between host country experts and External Evaluation Team members. The entire external evaluation, including discussions around the scores, the strengths, the areas which need strengthening, best practices, challenges and the priority actions should be collaborative, with external evaluation team members and host country experts seeking full agreement on all aspects of the final report findings and recommendations.

Should there be significant and irreconcilable disagreement between the external team members and the host country experts or among the external or among the host country experts, the External Evaluation Team Lead will decide the outcome; this will be noted in the Final Report along with the justification for each party's position.

Preparation and implementation of the mission

Viet Nam voluntarily requested a joint external evaluation as part of their commitment to achieving IHR (2005) core capacities.

From 15 to 17 August 2016, Viet Nam conducted a self-assessment using the IHR JEE tool. The report of this self-evaluation and supporting documentation were shared with the JEE team prior to the mission. Teleconferences were held with the international team members of the JEE team on 11 and 24 October to discuss objectives, clarify roles and responsibilities, and examine the process and logistics during the JEE mission.

The mission began on 28 October 2016 with a briefing between a team from the ministries and international experts of the JEE team and a visit to the EOC. Field visits were undertaken to central human health and animal health surveillance departments and laboratories (National Institute Hygiene and Epidemiology, Department of Animal Health and the National Centre for Veterinary Diagnostics), the central hospital, Noi Bai airport, and a provincial level health department provided opportunity for a more in depth discussion and verification of capacities. Between 1 and 3 November, national and international experts jointly reviewed country capacities in the 19 technical areas of the JEE tool. The mission concluded with a joint review of JEE scores, recommended priority actions and actions for translating them into national planning. A JEE team debriefing with national and international team members followed, to discuss the lessons learned from the process as a whole.

The results of the assessment and observations of Viet Nam's capacities were presented to the Vice-Minister of Health, stakeholders from other ministries and agencies and partners in Hanoi, Viet Nam on 4 November 2016.

Limitations and assumptions

The evaluation took place for a period of one week, which limited the amount and depth of information that could be managed.

Key host country participants and institutions

Participating national institutions

- Ministry of Health
 - General Department of Preventative Medicine
 - Division of Communicable Disease Control
 - Division of Border health Quarantine
 - Division of Planning and Finance
 - Division of Communication and Network Direction
 - Division of Vaccine Management and Laboratory
 - Division of Legislation and Inspection
 - Cabinet Office
 - Viet Nam Administration of Medical Services
 - Department of Communication and Award

- Viet Nam Food Administration
 - Department of Manpower
 - Department of International Cooperation
 - Department of Planning and Finance
 - Department of Legislation
 - MoH Cabinet Office (Unit of Hazard Prevention)
 - Department of Technical Science and Training
 - Viet Nam Agency of Environmental Management (Chemical Division)
 - National Centre for Health Communication and Education
 - Hanoi School of Public Health (HSPH)
 - Hanoi Medical University (Institute of Preventive Medicine and Public Health)
 - National Institute of Hygiene and Epidemiology
 - National Hospital for Tropical Diseases Hospital
 - National Paediatric Hospital
 - Bach Mai Hospital (Poison Control Centre)
 - Ha Noi International Health Quarantine Centre
 - Ha Noi Preventive Medicine Centre (Department of Immunization)
- Ministry of Agriculture and Rural Development (MARD)
 - Department of Animal Health
 - National Centre of Animal Health Diagnosis
 - Department of Livestock Production
 - Regional Office for Animal Health #1
 - National Agro-Forestry-Fisheries Quality Assurance Department
 - Department of Hazards Prevention
 - Department of Personnel
 - One Health Partnership office
- Ministry of Industry and Trade
 - Department of Chemical
 - Department of Technical Science (Food Safety)
- Ministry of Defence
 - Department of Health
 - Department of Border Gate
- Ministry of Public Security
 - Department of Border Gate Security
- Ministry of Science and Technology
 - Viet Nam Agency for Radiation and Nuclear Safety

Partner observers

- Asian Development Bank (ADB)
- Defense Threat Reduction Agency (DTRA)

- Food and Agricultural Organization (FAO)
- United States Centers for Disease Control and Prevention (US CDC)
- United States Agency for International Development (USAID)
- Oxford University Clinical Research Unit
- Preparedness and Response Project
- PATH (Program for Appropriate Technology in Health)
- World Bank (WB)

Supporting documentation provided by Viet Nam

Presentations:

- Presentation on overview of Viet Nam's health system
- Presentation on Viet Nam's self-evaluation using the WHO JEE tool
- Presentations on each of the 19 JEE technical areas

Documents:

National legislation, policy and financing

- Law No. 21-LCT/HDNN8 on people's health protection
- Law No. 40/2009/QH12 on medical treatment
- Law No. 79/2015/QH13 on animal health
- Law No. 03/2007/QH12 on prevention and control of infectious diseases
- Law No. 105/2016/QH13 on pharmaceuticals (revised)
- Law No. 64/2006/QH11 on HIV/AIDS prevention and control
- Law No. 55/2010/QH12 on food safety
- Law No. 18/2008/QH12 on atomic energy
- Law No. 82/2015/QH13 on environmental resources and maritime
- Law No. 47/2014/QH13 on immigration, transit of foreigners residing in Viet Nam
- Law No. 22/2012/QH13 on national stockpile (revised)
- Law No. 55/2014/QH13 on environmental protection
- Law No. 84/2015/QH13 on labour safety and hygiene
- Decision No. 02/2016/QĐ-TTg on triggers for announcement of infectious disease outbreaks (revising Decision No. 64/2010/QĐ-TTg)
- Decision No. 1126 /QD-BYT on approval of the action plan for prevention and control of influenza A (H7N9) in Viet Nam
- Decision No. 2941/QD-BYT on approval of the action plan for prevention and response for Ebola in Viet Nam
- Decision No. 172/2007/QD-TTg on approval of the National Strategy for Natural Disaster Prevention, Control and Mitigation to 2020

- Decision No. 1944/QD-BYT on approval of the action plan for prevention and response for MERS-CoV in Viet Nam
- Decision No. 64/2010/QĐ-TTg on conditions for announcement of outbreak and its termination
- Decision No. 56/2010/QĐ-TTg on regulating the designation in establishing, organizing and operating steering committees for diseases prevention and control at different levels
- Decision No. 581/2012/QĐ-BYT on issuing a manual on surveillance, prevention and control to hand-foot-mouth disease
- Decision No. 1988/2013/QĐ-BYT on adding Influenza A(H7N9) in the class A infectious diseases of the Law on Prevention and Control of Infectious Diseases
- Decision No. 1424/QĐ-BYT on establishment of the EOC for disease outbreak prevention and control
- Decision No. 3299/QD-BYT on establishment of EOC steering committee
- Decision No. 348/QĐ-TTg on establishment of the national steering committee for influenza pandemic prevention and control
- Decision No. 13/2004/QĐ-TTg on establishment of the national steering committee for avian influenza prevention and control
- Decision No. 3265/QD-BYT on establishment of the steering committee for disease prevention and control
- Decision No. 1980/QD-TTg on establishment of the anti-terrorism steering committee
- Decision No. 76/2009/QĐ-TTg on upgrade of Central Committee for Search and Rescue and search and rescue system at ministerial and provincial levels
- Decision No. 408/QD-TTg on establishment of the national steering committee for food safety
- Decision No. 367/QD-TTg on national steering committee for national disaster prevention and control
- Decree No. 103/2016/ND-CP on amendments to Decree No. 92/2010/NĐ-CP on biosafety
- Decree No. 122/2014/ND-CP on regulation on organization and operation of health inspection unit
- Decree No. 92/2010/NĐ-CP (replaced by Decree No. 103) detailing the implementation of the law on infectious disease prevention and control regarding biosafety in laboratories
- Decree No. 103/2010/NĐ-CP on detailing instruction on border quarantine to infectious diseases
- Decree No. 101/2010/NĐ-CP on regulating details on some articles of law on prevention and control of infectious disease regarding medical isolation, medical isolation enforcement and some specific anti-epidemic measures
- Decree No. 35/2016 on implementing document to the animal health law
- Decree No. 103/2016 on ensuring biosafety in laboratories (revision of the Decree No. 92/2010)
- Decree No. 101/2010/NG-CP on provisions of implementing some articles of the law on prevention and control of infectious diseases on isolation, compulsory quarantine and special control measures during disease outbreak
- Decree No. 103/2010/NG-CP on provisions of implementing some articles of the law on prevention and control of infectious diseases at border health quarantine
- Decree No. 66/2014/NG-CP on detailing specific provisions of the disaster control law
- Decree No. 94/2014/ND-CP on the setting up and management of natural disaster prevention and control funds

- Decree No. 05/2007/NĐ-CP on animal rabies prevention and combat
- Circular No. 48/2010/TT-BYT on regulations on notification and reporting of communicable diseases
- Circular No. 54/2015/TT-BYT on guiding notification, reporting and declaration of communicable diseases (revised from Circular No. 48)
- Circular No. 18/2011/TTLT-BGDDT-BYT on regulating assessments of medical issues at primary schools, secondary schools, high schools and multi-levels schools
- Circular No. 22/2013/TTLT-BGDDT-BYT on regulating assessments of medical issues at kindergarten schools
- Circular No. 13/2013/TT-BYT on guidelines for infectious disease surveillance
- Circular No. 43/2011/TT-BYT on the management of infectious disease samples
- Circular No. 07/2012/TT/BYT on regulating pestilential microorganism catalogue according to risk group and assaying techniques applied to various microorganisms according to suitable biosafety lab requirements (being revised)
- Circular No. 25 /2012/TT-BYT on circulating national technical regulation on practice and biosafety in laboratories (being revised)
- Circular No. 29 /2012/TT-BYT on regulating certification and re-certification of accrediting laboratory up to biosafety standards
- Circular No. 21/2011/TT-BYT on regulating establishment, structure and operation of technical advisory committee for reviewing and assessing accidents in using vaccines and biomedical products
- Circular No. 26/2011/TT-BYT on regulating the list of infectious diseases, application scope and target subjects who must use appointed vaccines biomedical products
- Circular No. 12/2014/TT-BYT for instructing on management and utilization of vaccines in vaccination
- Circular No. 15/2014/TT-BYT on guidelines for notification and reporting by quarantine activities
- Circular No. 32 /2012/TT-BYT on regulations on medical declaration for people upon entry, exit and transit at Vietnamese border gate
- Circular No. 46/2014/TT-BYT on guiding the health quarantine process
- Circular No. 16/2013/TTLT-BYT-BNN&PTNT on instructing on cooperating in prevention and controls of zoonosis (responsibilities of different organizations/units in preventing and controlling zoonosis)
- Circular No. 13/2014/TTLT-BYT-BNNPTNT-BCT on allocation of tasks and cooperation among regulatory agencies in food safety management
- Circular No. 16/2013/TTLT-BYT-BNN&PTNT on guidelines for coordinated prevention and control of zoonotic diseases (same as 1.62)
- Circular No. 07/2016/TT-BNNPTNT on regulations on prevention and control diseases on terrestrial livestock
- Circular No. 13/2014 on provision on ensuring radiation safety in medical care
- Circular No. 13/2016 on provision of school-based health care
- Circular No. 43/2015/TTLT-BNNPTNT-BKHTD on guidance on statistic and evaluation of the damage caused by natural disasters
- Assessment report of Circular No. 48/2010/TT-BYT implementation
- Vietnam – Laos PDR Memoranda of Understanding (Health Minister of Laos with authorization from Laos Government and Health Minister of Viet Nam with authorization from Viet Nam government)

- Vietnam – Cambodia Memoranda of Understanding (Health Minister of Cambodia on behalf of the Cambodia Government and Health Minister of Viet Nam on behalf of the Viet Nam government)
- Vietnam – China Memoranda of Understanding
- ASEAN Agreement on Disaster Management and Emergency Response 2016–2020
- Ministry of Health – Ministry of Public Security coordinating mechanism
- Ministry of Health – Ministry of Defense coordinating mechanism
- National Preparedness Plan in Response to Avian Flu Epidemic H5N1 and Human Influenza Pandemic
- Action plan for prevention and response for influenza pandemic H1N1 in Viet Nam
- Action plan for prevention and control of influenza A (H7N9) in Viet Nam
- Action plan for prevention and response for MERS-CoV in Viet Nam
- Action plan for prevention and response for Ebola in Viet Nam

IHR coordination, communication and advocacy

- Decision No. 408/QD-BYT-TTg on establishment of the national steering committee for food safety
- Decision No. 367/QD-TTg on national steering committee for national disaster prevention and control
- Decision No. 1128/QD-BYT on approval of the guidelines on influenza A (H7N9) surveillance, prevention, and control
- Decision No. 3192/QD-BYT on approval of the Ebola surveillance protocol including management and transport of potentially infectious patients at the community and points of entry.
- Decision No. 1812/QD-BYT on approval of the protocol for handling influenza A (H5N1) outbreak.
- Decision No. 2002/QD-BYT on approval of the surveillance guidelines for MERS-CoV surveillance
- Decision No. 1126 /QD-BYT on approval of the action plan for prevention and control of influenza A (H7N9) in Viet Nam
- Decision No. 1944/QD-BYT on approval of the action plan for prevention and response for MERS-CoV in Viet Nam
- Decision #2941/QD-BYT on approval of the action plan for prevention and response for Ebola in Viet Nam
- Letter No. 6334/VPCP-QHQT from Office of the Government for approving on re-launching the Partnership on Avian and Human Pandemic Influenza as Vietnam One Health Partnership for Zoonoses
- Circular No. 46/2014/TT-BYT on guidelines for quarantine process at border gates (airports, waterway gates)
- Circular No. 54/2015/TT-BYT on guiding notification, reporting and declaration of communicable diseases
- Circular No. 16/2013/TTLT-BYT-BNN&PTNT on guidelines for coordinated prevention and control of zoonotic diseases
- National preparedness plan in response to avian flu epidemic H5N1 and human influenza pandemic
- Action plan for prevention and response for influenza pandemic H1N1 in Viet Nam
- Action plan for prevention and control of influenza A (H7N9) in Viet Nam
- Action plan for prevention and response for MERS-CoV in Viet Nam

- Action plan for prevention and response for Ebola in Viet Nam
- Implementing Guide for Joint Circular No. 16/2013/TTLT-BYT-BNN&PTNN on guidance for coordinated prevention and control of zoonotic diseases
- Guidelines on influenza A (H7N9) surveillance, prevention and control
- Surveillance guidelines for MERS-CoV surveillance
- Protocol for handling influenza A (H5N1) outbreak
- Risk communication protocol
- Ebola surveillance protocol including management and transport of potentially infectious patients at the community and points of entry
- EOC handbook (draft pending approval)
- Table top exercises for influenza A (H7N9): debriefing notes
- MERS-CoV simulation exercise: final report
- Ebola simulation exercise (final report from National Hospital for Tropical Disease and photos from Ha Noi and PI-HCMC)
- Influenza A (H5N1) simulation exercise (photos from Dien Bien province)
- Annual IHR review sample agenda
- Annual IHR review sample participant list
- Annual IHR review sample implementation report/questionnaire

Antimicrobial resistance

- Decision No. 2174/QD-BYT on promulgation of the national action plan on combating drug resistance for the period from 2013 to 2020
- Decision No. 6211 on creating and defining the roles and responsibilities of the drug-resistant bacteria surveillance system in health care facilities (approval date: 17 October 2016)
- Decision No. 1426/QD-BYT on approval of the national action plan for infection, prevention and control in health care facilities for 2016–2020; guidance on implementing infection, prevention and control activities in health care settings
- Decision No. 2803/QĐ-BNN-TY on plan for management and monitoring of antibiotics imported and used in veterinary medicine, 2016–2020
- Circular No. 28/2014/TT-BNNPTNT on promulgating list of chemicals, antibiotics prohibited from import, production, trading and use in livestock and poultry feeds in Viet Nam
- Circular No. 06/2016/TT-BNNPTNT on list of permissible antibiotics as growth stimulants in livestock and poultry feeds in Viet Nam
- Aide Memoire – multi-stakeholder engagement to combat antimicrobial resistance in Viet Nam
- Survey of implementation of infection, prevention and control activity in 739 hospitals according to Circulate 18/2009/TT-BYT
- Decision No. 04/2008/QĐ-BYT on promulgation regulations on prescription for outpatient treatment and guidance on antibiotic use in hospital
- National plan for antimicrobial stewardship activities
- Research publication from participating agencies of the Viet Nam Resistance Project (VINARES), NHTD, and Oxford University Clinical Research Unit (OUCRU)

Zoonotic disease

- Law No. 79/2015/QH13 on animal health
- Decision No. 1128/2013/QD-BYT on approval of the guidelines on influenza A (H7N9) surveillance, prevention and control
- Decision No. 1812/2005/QD-BYT on approval of the protocol for handling influenza A (H5N1) outbreak
- Decision No. 1622/2014/QĐ-BYT on approval of the guidelines on human rabies surveillance and prevention
- Decision No. 16/2016/QĐ-TTg on the establishment of zoonotic disease control steering committees at various levels
- Decision No. 6334/2015/VPCP-QHQT on transforming the Partnership for Avian and Human Influenza (PAHI) into the Viet Nam One Health Partnership for Zoonosis
- Decision No. 719/2008/QD-TTg on policies supporting prevention and control of diseases in cattle and poultry
- Decision No. 1442/2011/QD-TTg on amendments and supplements to Decision #719/QD-TTg for policies supporting prevention and control of diseases in cattle and poultry
- Decree No. 05/2007/TTg on prevention and control of rabies in animals
- Decree No. 82/2006/NĐ-CP on management of export, import, re-export, introduction from the sea, transit, breeding, rearing and artificial propagation of endangered species of precious and rare wild fauna and flora.
- Directive No. 3837/2012/CT-BNN-TCLN on management, breeding, trading and utilizing wildlife
- Circular No. 54/2015/TT-BYT on guiding notification, reporting and declaration of communicable diseases
- Circular No. 07/2016/TT-BNNPTNT on regulations on prevention and control of diseases on terrestrial livestock
- Circular No. 16/2013/TTLT-BYT-BNN&PTNT on guidelines for coordinated prevention and control of zoonotic diseases
- Circular No. 25/2015/TT on types of animals allowed for commercial trading in Viet Nam
- Circular No. 14/2014/BNNPTNT on promulgating lists of high-yield livestock breeds
- Aide Memoire – Multi-stakeholder engagement to combat antimicrobial resistance in Viet Nam
- National preparedness plan in response to avian flu epidemic H5N1 and human influenza pandemic
- Viet Nam Integrated One Health Action Strategic Plan for the period 2016-2020 – One Health approaches to diseases of public health concern of animal origin (draft pending approval)
- Joint five-year rabies control plan (draft pending approval)
- Applied Veterinary Epidemiology Training (AVET) Master Plan
- National integrated operational program for avian and human influenza (Green book) 2006–2010
- Enhancing coordination on emerging infectious diseases in Viet Nam (Blue Book)
- The Vietnam Integrated National Operational Program On Avian Influenza, Pandemic Preparedness and Emerging Infectious Diseases (AIPED) 2011–2015
- Viet Nam coordinated surveillance for influenza and other viruses with pandemic potential (Longitudinal Influenza Surveillance Network) Inception Workshop – meeting report (draft)

- LOA-FAVIE 2016/15–OSRO/VIE/402/USA on implementation of One Health introductory course – wildlife investigation in livestock disease and public health – final report
- OSRO/VIE/301/USA on implementation of data census survey on wildlife farm in 12 pilot provinces – technical report
- World Organisation for Animal Health – Performance of Veterinary Services (OIE-PVS) Gap Analysis Report
- H7N9 table top exercise debriefing minutes

Food safety

- Law No. 55/2010/QH12 on food safety
- Decision No. 3299/QD-BYT on consolidation of the EOC
- Decision No. 408/QD-CP on consolidation of the national intersectoral steering committee for food safety
- Decision No. 377/QĐ-ATTP on establishment of the working group to respond quickly to food safety incidents
- Decision No. 1060/QĐ-UBND on establishment of the provincial food safety steering committee (sample from Thái Nguyên province)
- Decision No. 20/QĐ-TTg on approving the national strategy for food safety and hygiene for the period 2011-2020 with vision to 2030
- Decision No. 39/2006/QD-BYT on promulgating the regulation on food poisoning investigation
- Decision No. 38/2012/ND-CP on guiding implementation of the law on food safety
- Decision No. 25/2013/QD-TTg on promulgating the regulation on announcement and provision of information to the media
- Decision No. 1228/QD-TTg on approving the national target programme on food safety for the period 2012–2015
- Prime Minister's Directive No. 13/CT-TTg gives directions to intensifying public sector management for food safety
- Official Letter No. 1331/BYT-ATTP on implementation of the national target programme on food safety 2013
- QCVN 8-2:2011/BYT on national technical code for heavy metal contamination limits in foods
- QCVN 8-3:2012/BYT on national technical code for microbiological contamination in foods
- QCVN 8-1:2011/BYT on national technical code for aflatoxin contamination in foods
- QCVN 4-1:2011/BYT to QCVN 4-23:2011/BYT on national technical code for food additives
- Circular No. 13/2014/TTLT-BYT-BNNPTNT-BCT on allocation of tasks and cooperation among regulatory agencies in food safety management
- Circular No. 31/2015/TT-BNNPTNT on regulation on surveillance of hazardous substance residues in animals and aquatic animal products
- Circular No. 06/2016/TT-BNNPTNT on providing the lists of permissible antibiotics as growth stimulants in livestock and poultry feeds in Viet Nam
- Circular No. 45/2014/TT-BNNPTNT on providing for the inspection of agricultural material production/trading establishments and inspection, certification of safety conditions for agro-forestry-fishery products.

- Circular No. 13/2011/TT-BYT guides the roles and responsibilities of food safety laboratories at the different levels and the division of testing criteria for laboratories
- Circular No. 54/2015/TT-BYT on guiding notification, reporting and declaration of communicable diseases
- Resolution No. 14/2016/QH14 on approval of the resolution on the supervision programme to ensure implementation of regulations and policies on food safety for 2017
- List of MoH food safety regulations
- Annual risk surveillance plan of Vietnam Food Administration
- Training materials and handbook on foodborne disease investigation
- ToRs of emergency focal point and focal points for the International Network of Food Safety Authorities (INFOSAN)
- List of facilities/institutes designated to perform food safety analyses and testing as posted on the VFA website: <http://vfa.gov.vn/tin-tuc/danh-sachcac-co-so-duoc-chi-dinh-kiem-nghiem-phuc-vu-quan-ly-nha-nuoc-ve-an-toan-thuc-pham.html>
- Management of imported food and risk profiling of the management board of the project on food safety capacity building in Greater Mekong Subregion Trade (draft pending approval)
- TCP/VIE/3503 on review of food safety and quality control under MARD
- Annual report of the Vietnam Food Administration
- Food poisoning report for 2013
- Food poisoning report for 2014
- Food poisoning report for 2015
- National Agro-Forestry-Fisheries Quality Assurance Department Report 2015

Biosafety and biosecurity

- Circular No. 25/2012/TT-BYT on promulgating national technical regulation on practice and biosafety in laboratories (being revised)
- Decree stipulation on the code regarding prevention and control of infectious disease of biosafety in laboratories
- Circular on the management of infectious specimens
- Other evidence Decision No. 35/2005/QD-BYT on issuance of design standards of laboratories of general hospitals and industry standards (Standard 52 BC - CTYT 0037: 2005) MoH 2005
- Decree No. 92/2010/NĐ-CP (replaced by Decree No. 103) detailing the implementation of the law on infectious disease prevention and control regarding biosafety in laboratories
- National technical regulations on practice and biosafety in laboratories
- Decree stipulation on laboratory biosafety
- Decision No. 2369/QD-BYT on assigning biosafety training duties to four Pasteur institutes, MoH 2013
- Approval for common curriculum in biosafety
- Results of evaluation of laboratory capacity in 2015 which were used as a training and infrastructure needs assessment in laboratories (not published, results of laboratory capacity informed the national plan for strengthening capacity in public health laboratories)

Immunization

- Law No. 03/2007/QH12 on prevention and control of infectious diseases
- Decision No. 1208/QĐ-TTg on approval of the national health agenda for the period 2012–2015
- Decision No. 1730/QĐ-BYT on promulgating guidelines for vaccine storage
- Decision No. 2701/2001/QD-BYT on application of “good storage practices” principle
- Decision No. 1878/QĐ-BYT on approving the plan of measles-rubella vaccination campaign
- Decision No. 16/QĐ-BYT on approving the Implementation plan for measles-rubella vaccination campaign
- Circular No. 12/2014/TT-BYT on regulation on using management of vaccine in immunization
- National Expanded Program on Immunization Comprehensive Multi-Year Plan 2016–2020
- National EPI Internal-External Review
- Viet Nam effective vaccine management (EVM) assessment report
- EVM comprehensive improvement plan
- Maintenance and repair strategy for cold chain expansion and replacement plan

National laboratory system

- Law No. 43/2013/QH13 on bidding
- Decision No. 1366/QD-BYT on regulation of organization and operation of quality control of diagnostic tests in Ho Chi Minh City Medical Centre
- Decision No. 3713/2014/QD-BYT on guideline for microbiological tests
- Decision No. 02/2016 on supervision under the national tuberculosis control programme
- Decision No. 2835/QD-BYT on establishing a steering committee for strengthening and upgrading laboratory network on infectious diseases of the MoH
- Decision No. 1098/QĐ-BYT on promulgation of national guidelines on HIV serological testing
- Decree No. 75/2016/NĐ-CP on stipulating conditions for HIV tests
- Letters of Laboratory Accreditation by WHO for influenza testing
- Letters of Laboratory Accreditation by WHO for polio testing
- Letters of Laboratory Accreditation by WHO for HIV testing
- Circular No. 41/2015 on laboratory licensing
- Circular No. 16/2011/TT-BNNPTNT on regulations on assessment, management for the laboratory in agriculture
- Circular No. 01/2013/TT-BYT on guiding the implementation of quality laboratory management at health facilities
- Circular No. 44/2014/TT-BYT on regulation of medicine registration
- Circular No. 16/2011/TT-BNNPTNT on regulations on assessment, management for the laboratory in agriculture
- Circular No. 22/2013/TT-BYT on continuing education for health workers
- Circular No. 43/TT-BYT on guidelines for specimen collection, packaging and transport

- Five-year plan for laboratory testing and biosafety capacity
- 401/VSDTTU-HIV on recommendations for HIV testing algorithm in Viet Nam
- Drug administration of Vietnam – registration procedure for in vitro diagnostic medical devices
- List of laboratories accredited on the Bureau of Accreditation (BoA) website: <http://www.boa.gov.vn/vn/tin-tuc/Danh-sach-cac-to-chuc-duoc-cong-nhan-moi-tu-ngay-01-3172016--277>

Real-time surveillance

- Law No. 03/2007/QH12 on prevention and control of infectious diseases
- Law No. 79/2015/QH13 on animal health
- Decision No. 1128/QD-BYT on approval of the guidelines on influenza A (H7N9) surveillance, prevention and control
- Decision No. 3192/QD-BYT on approval of the Ebola surveillance protocol including management and transport of potential infectious patients at the community and points of entry.
- Decision No. 2002/QD-BYT on approval of the surveillance guidelines for MERS-CoV surveillance
- Decision No. 3792/QD-BYT on issuing guidance for monitoring and prevention of Zika virus disease
- Decision No. 1622/QĐ-BYT on approval of the guidelines for human rabies surveillance and prevention
- Circular No. 07/2016/TT-BNNPTNT on regulations on prevention and control of diseases on terrestrial livestock
- Circular No. 13/2013/TT-BYT on guidance on infectious disease surveillance
- Circular No. 48/2010/TT-BYT on regulations on notification and reporting of communicable diseases
- Circular No. 54/2015/TT-BYT on guiding notification, reporting and declaration of communicable diseases
- Circular No. 16/2013/TTLT-BYT-BNN&PTNT on guidelines for coordinated prevention and control of zoonotic diseases
- Circular No. 29/2016/TT-BNNPTNT on guidelines for animal health workers working in remote areas
- Circular No. 48 /2009/TT-BNNPTNT on guiding rabies surveillance
- Circular No. 54/2015/TT-BYT on guiding notification, reporting and declaration of communicable diseases
- Circular No. 16/2013/TTLT-BYT-BNN&PTNT on guidelines for coordinated prevention and control of zoonotic diseases
- Circular No. 29/2016/TT-BNNPTNT on guidelines for animal health workers working in remote areas
- Circular No. 48 /2009/TT-BNNPTNT on guiding on rabies surveillance
- Circular No. 53 /2013/TT- BNNPTNT on guiding on reporting of inland animal diseases
- Guideline for measles and rubella surveillance in Viet Nam
- Guideline of surveillance for meningo-encephalitis (Hib/JE) in two sentinel hospitals (National Pediatric Hospital in Hanoi, Pediatric Hospital No.1 in HCMC), Viet Nam
- Guidelines on Japanese encephalitis sentinel surveillance in provinces
- Guideline for CRS surveillance in Viet Nam
- Guidelines for rotavirus surveillance

- Standardization of terrestrial animal diseases reporting forms
- Weekly SARI sample report
- Weekly communicable diseases sample report – MoH
- Weekly communicable diseases sample report – NIHE
- Annual statistics sample report for nationally notifiable diseases

Reporting

- Decision No. 4320/QD-BYT on establishment of the national IHR (2005) focal point
- Decision No. 666/QĐ-BNN-TCCB on regulating the functions, tasks, right and organization structure of the Department of Animal Health
- Decision No. 02/2016/QĐ-TTg on stipulating the conditions for declaration of an outbreak, declaration of the end of outbreak
- Draft Decision on the Technical Working Group on implementation of the IHR and GHSA in Viet NamCircular No. 16/TTLT-BYT-BNN on guidelines for coordinated prevention and control of zoonotic diseases
- Circular No. 07/2016/TT-BNNPTNT on providing regulations on terrestrial zoonosis control
- Risk assessment of the yellow fever epidemic in Viet Nam
- Risk assessment of the Zika virus in Viet Nam
- Greater Mekong subregion for communicable disease control project
- Mapping of border province information sharing on infectious diseases
- Ebola simulation exercise (final report from NHTD and photos in Ha Noi and PI-HCMC)
- MERS-CoV modified functional exercise report
- Documentation of Zika event reporting to WHO
- Risk assessment of the Zika virus in Viet Nam
- IHR Exercise Crystal participation report, 2015
- Evaluation of avian and swine influenza surveillance systems in Viet Nam – report (second version)
- EOC meeting minutes regarding Zika event, dated 18/3/2016

Workforce development

- Decision No. 348/QD-TTg on establishment of the national steering committee for prevention of pandemic influenza in humans
- Decision No. 782/QD-UBND on establishment of the steering committee for disaster prevention, control and search and rescue of Nam Dinh province (sample of Nam Dinh province)
- Decision No. 2992/QĐ-BYT on endorsement of the strategy for human resource development of the health care system, 2015–2020
- Decree No. 56/2011/NĐ-CP on government stipulating occupational allowances for civil servants and public employees working in public health facilities
- Circular No. 54/2015/TT-BYT on guiding notification, reporting and declaration of communicable diseases

- Circular No. 02/2012/BYT-BNV-BTC on guiding Decree No. 56/2011/NĐ-CP on government stipulating occupational allowances for civil servants and public employees working in public health facilities
- FETP master work plan, 2011–2015
- FETP master work plan, 2016–2020
- FETP evaluation report, 2011
- FETP evaluation report, 2015
- Applied Veterinary Epidemiology Training (AVET) Master Plan

Preparedness

- Decision No. 1126 /QD-BYT on approving the action plan for prevention and control of influenza A (H7N9) in Viet Nam, 2013
- Decision No. 1944/QD-BYT on approving the action plan for prevention and response for MERS-CoV in Viet Nam, 2014
- Decision No. 2941/QD-BYT on approving the action plan for prevention and response for Ebola in Viet Nam, 2014
- Decision No. 172/2007/QD-TTg on approving the national strategy on natural disaster prevention, fighting and reduction till 2020
- Decree No. 94/2013/NĐ-CP on guiding the implementation of national stockpile law, 2013
- Circular No. 170 – CSDT 4/4/1997 on guidance on implementing mechanism of the management of national stockpiling promulgated with Decree No. 10/CP dated 24 February 1996 of the Government, 1997
- National preparedness plan in response to avian flu epidemic H5N1 and human influenza pandemic, 2005
- Action plan for prevention and response for influenza pandemic H1N1 in Viet Nam, 2009
- Action plan for prevention and control of influenza A (H7N9) in Viet Nam, 2013
- Action plan for prevention and response for MERS-CoV in Viet Nam, 2014
- Action plan for prevention and response for Ebola in Viet Nam, 2014
- National public health emergency preparedness and response plan (draft), 2014

Emergency response operations

- Law No. 03/2007/QH12 on prevention and control of infectious diseases, 2007
- Decision No. 1424/QĐ/BYT on establishment of the EOC, 2013
- Decision No. 3299/QD-BYT on consolidation of the EOC, 2013
- Decision No. 37/2005/QD-BYT on issuing guidelines for diagnosis, treatment and infection control of influenza viral pneumonia, 2005
- Decision No. 1176/QD-BYT on approving the guidelines for diagnosis, treatment and infection control of influenza A (H7N9), 2013
- Decision No. 4465/QD-BYT on approving the guidelines for diagnosis and treatment MERS-CoV, 2012
- Decision No. 4600/QD-BYT on approving the guidelines for diagnosis and treatment Ebola virus disease, 2014

- Decision No. 1812/QD-BYT on approving the protocol for handling influenza A (H5N1) outbreak, 2005
- Decision No. 1128/QD-BYT on approving the guidelines on Influenza A (H7N9) surveillance, prevention and control, 2013
- Decision No. 3192/QD-BYT on approving the Ebola surveillance protocol including management and transport of potential infectious patients at the community and point of entry, 2014
- Decision No. 2002/QD-BYT on approving the surveillance guidelines for MERS-CoV surveillance, 2014
- Decision No. 3792/QD-UBND on decision on establishment of Ha Noi inter-agency steering committee for prevention and control human diseases, 2016
- Decision No. 56/2010/TTg on establishment of steering committee for disease prevention and control at different levels, 2010
- Decision No. 348/QD-TTg on establishment of the national steering committee for influenza pandemic prevention and control, 2006
- Decision No. 13/2004/QD-TTg on establishment of the national steering committee for avian influenza prevention and control, 2004
- Decision No. 3265/QD-BYT on establishment of the steering committee for disease prevention and control, 2014
- Decree No. 101/2010/NĐ-CP on detailed provision for implementation of a number of articles of the law on prevention of infectious diseases applied health quarantine, isolation and special outbreak response during outbreak, 2010
- Circular No. 32/2012/TT-BYT on regulations on medical declaration for the entry, exist and transit at points of entry, Viet Nam, 2012
- Circular No. 48/2010/TT-BYT on regulations on notification and reporting of communicable diseases, 2010
- Circular No. 54/2015/TT-BYT on guiding notification, reporting and declaration of communicable diseases, 2015
- Guidelines for diagnosis and treatment influenza A (H5N1), 2006
- EOC handbook (draft pending approval)
- EOC training curriculum and agenda, 2016
- List of EOC members that received training, 2016
- List of EOC equipment (Excel spreadsheet)
- Sample meeting minutes from EOC meetings, 2016
- Sample situation report shared in past event, 2016
- MERS-CoV simulation exercise report, 2015

Linking public health and security authorities

- Law No. 23/2013/QH13 on anti-terrorism. Article 12. Anti-terrorism implementing arrangements, 2013
- Decision No. 1908/QD-TTg on establishment of the National Anti-terrorism Steering Committee, 2015
- Decision No. 76/2009/QD-TTg on upgrading the National Committee for Search and Rescue and search and rescue system at ministerial and provincial levels, 2009
- Decision No. 348/QD-TTg on establishment of the national steering committee for influenza pandemic prevention and control, 2006

- Decision No. 13/2004/QD-TTg on establishment of the national steering committee for avian influenza prevention and control, 2004
- Decision No. 3265/QD-BYT on establishment of the steering committee for disease prevention and control, 2014
- Decision No. 408/QD-BYT-TTg on establishment of the national steering committee for food safety, 2009
- Decision No. 56/2010/QD-TTg on establishment of steering committee for disease prevention and control at different levels, 2010
- Decision No. 884/QD-UBND on provincial/district steering committee on avian influenza prevention and control (sample from Son Tay District, Quang Ngai Province), 2013
- Decision No. 2602/QD-UBND on provincial/district steering committee on food safety (sample from Da Nang City), 2016
- Decree No. 101/2010/NG-CP on provisions for medical isolation and quarantine, 2010
- Ministry of Health – Ministry of Defense coordinating mechanism, 2015
- Ministry of Health – Ministry of Public Security coordinating mechanism, 2013
- Coordinating mechanisms for border gate authorities in Ho Chi Minh City, 2011
- Agenda for interagency training on emerging disease control surveillance, 2016
- Agenda for border health quarantine training, 2016
- Ebola simulation exercise (final report from NHTD and photos in Ha Noi and PI-HCMC), 2014
- MERS-CoV simulation exercise (photos in Ha Noi), 2014

Medical countermeasures and personnel deployment

- Law No. 22/2012/QH13 on national stockpiling
- Law No. 47/2014/QH13 on Immigration; Article 18 on emergency, rescue, disaster, outbreak prevention or other special reasons
- Decision No. 3265/QD-BYT on establishment of the steering committee for disease outbreak prevention and response
- Decision No. 1126/QD-BYT on approval of the action plan for prevention and control of influenza A (H7N9) in Viet Nam
- Decision No. 1944/QD-BYT on approval of the action plan for prevention and response for MERS-CoV in Viet Nam
- Decision No. 2941/QD-BYT on approval of the action plan for prevention and response for Ebola in Viet Nam
- Circular No. 07/2015/TTLT- BKHDT-BTC on bidding of the Ministry of Finance, Ministry of Planning and Investment
- Circular No. 07/2016/TT-BNNPTNT on prevention of disease of terrestrial animals
- ASEAN Agreement on Disaster Management and Emergency Response (AADMER)
- National preparedness plan in response to avian flu epidemic H5N1 and human influenza pandemic
- Action plan for prevention and response for influenza pandemic H1N1 in Viet Nam
- Action plan for prevention and control of influenza A (H7N9) in Viet Nam

- Action plan for prevention and response for MERS-CoV in Viet Nam
- Action plan for prevention and response for Ebola in Viet Nam
- Annual procurement plan
- National rabies prevention and control plan (draft)
- Annual plan for prevention and control animal health disease

Risk communication

- National 5-year action plan, MoH, 2015
- Ministry of Health's annual work plan, MoH, 2015
- Risk communications plan (2013–2016), GDPM, 2016
- SOPs for risk communications during a public health emergency, GDPM, 2015
- Providing rules on making statements and disclosing information to the media, MoH, 2015
- Provisions on duties and implementation of social activities of hospitals, MoH, 2015
- Approval of the action plan for prevention and response for MERS-CoV in Viet Nam, MoH, 2014

Points of entry

- Decision No. 14/2007/QD-BYT on regulation of tasks, function, power and organizational structure of international border health quarantine centres
- Decree No. 103/2010/NĐ-CP on regulations detailing the implementation of some articles of the law on prevention and control of infectious diseases of the border health quarantine
- Ref No. 16/BYT-DP – Official letter from Vice Minister of Health to WHO IHR Contact Point listing the seven designated point of entry in Viet Nam
- Circular No. 46/2014/TT-BYT on guideline for process of border health quarantine
- Circular No. 15/2014/TT-BYT on guideline for communication and report for border health quarantine activities
- Circular No. 32/2012/TT-BYT on regulations on medical declaration for the entry, exit, transit at the border gates of Viet Nam
- Regulations on collaboration in prevention and control of diseases – Da Nang, Director of Central Port Agency
- Regulations on collaboration in prevention and control of diseases – HCMC International Border Health Quarantine Centre; Southern Ports Agency; TSN Airport; TSN police station; TSN Custom office
- Agreements on border health quarantine between Viet Nam and three bordering countries – Lao PDR, Cambodia and China
- Inter-agency coordination mechanism at border gates in Ho Chi Minh City: RAHO 6, HCMC Customs Office
- HCMC International Border Health Quarantine Centre
- Plan on prevention and control of Ebola HCMC, HCMC International Border Health Quarantine Centre
- Plan on prevention and control of MERS-CoV HCMC, HCMC International Border Health Quarantine Centre
- Plan on prevention and control of Zika 2016 Lao Bao, Quang Tri International Border Health Quarantine Centre

- Plan on prevention and control of Zika Da Nang, Department of Health of Da Nang city
- Plan on prevention and control of Zika HCMC, HCMC International Border Health Quarantine Centre
- Plan on prevention and control of infectious disease and public health events 2015–2016
- MERS-CoV simulation exercise (planning), Ha Noi PPMC
- Ebola simulation exercise (final report from NHTD and photos from Ha Noi and PI-HCMC), NHTD
- Sample six-monthly report Da Nang, Da Nang International Border Health Quarantine Centre
- Sample six-monthly report Lao Bao, Quang Tri International Border Health Quarantine Centre
- Sample six-monthly report Lao Cai, Lao Cai International Border Health Quarantine Centre
- Sample six-monthly report Tay Ninh, Tay Ninh International Border Health Quarantine Centre

Chemical events

- Law No. 06/2007/QH12 on chemicals, 2007
- Law No. 40/2013/QH13 on amending and supplementing some articles of the fire prevention and control law, 2013
- Law No. 55/2014 /QH13 on environmental protection, 2014
- Decision No. 184/2006/QD-TTg on approving the national plan on implementation of the Stockholm Convention on persistent organic pollutants, 2006
- Direction No. 03/CT-TTg on enhancing the prevention and response to hazardous chemical incidents, 2013
- Decree No. 79/2014/NĐ-CP on amending and supplementing some articles of the fire prevention and control law, 2014
- Decree No. 108/2008/NĐ-CP on detailing and guiding implementation of chemical law, 2008
- Decree No. 26/2011/NĐ-CP on amending and supplementing some articles of Decree No. 108/2008/ ND-CP on detailing and guiding implementation of chemical law, 2011
- Decree No. 29/2005/NĐ-CP on regulating categories of dangerous goods and transportation of dangerous goods on inland waterways, 2005
- Decree No. 104/2009/NĐ-CP on regulating categories of dangerous goods and transportation of dangerous goods by road motorized vehicles, 2009
- Decree No. 03/2015/NĐ-CP on regulating determination of damages to the environment, 2015
- Decree No. 163/2013/NĐ-CP on stipulating sanction of administrative violations in the fields of chemicals, fertilizers, and industrial explosives, 2013
- Official letter No. 10362/BCT-HC on guiding development of the plan to prevent and respond to chemical incidents at provincial level, 2013
- Official Letter No. 9574 /BCT-HC on development of plan to prevent and respond to chemical incidents at provincial level, 2014
- Official Letter No. 3367/VPCP- QHQT on appointment of national focal agency for implementation of industrial chemicals section of the Rotterdam Convention, 2010
- Circular No. 20/2013/TT-BCT on regulation for prevention and response plan for chemical incidents, 2013
- Circular No. 40/2011/TT-BCT on chemical declaration, organizations and individuals transporting and trading hazardous chemicals must declare chemicals, 2011

- Circular No. 04/2012/TT-BCT on regulating classification and labeling of chemicals, 2012
- Circular No. 28/2010/TT-BCT on stipulating the details of the chemical law and Decree No. 108/2008/NĐ-CP on detailing and guiding implementation of chemical law, 2010
- Vietnam Standards TCVN 5507:2002 Dangerous chemicals – Regulation on safety in trading, production, use, storage and transport, 2002
- Vietnam Standards TCVN 1364 -79 Toxic substances. Classification and general safety requirements
- Vietnam Standards TCVN 3890:2009 Means of fire prevention and control for home and works – equipment, layout, inspection and maintenance, 2009
- Guidelines for emergency care of victims of chemical incidents, 2015
- Bien Hoa Chemical Company exercise final report, 2014

Radiation emergencies

- Law No. 18/2008/QH12 on atomic energy, 2008
- Decision No. 217/QĐ-BKHCN on promulgating the regulations on organization and operation of VARANS, 2014
- Decision No. 1958/QĐ-TTg on approving detailed planning for development of radiation application in medicine, 2011
- Decision No. 01/2006/QĐ-TTg on approving the strategy on peaceful use of atomic energy till 2020, 2006
- Decision No. 957/QĐ-TTg on approving the master plan on development of and peaceful use of atomic energy till 2020, 2010
- Directive No. 17/CT-TTg on strengthening radiation safety and security of radioactive sources, 2015
- Decree No. 07/2010/NĐ-CP on regulations and guidelines for implementation of the atomic energy law, 2010
- Decree No. 20/2013/NĐ-CP on stipulating functions, tasks, powers and organizational structure of MoST, 2013
- Convention on Early Notification of a Nuclear Accident, 1987
- Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, 1987
- Code of Conduct on the Safety and Security of Radioactive Sources and Supplementary Guidance on Import and Export of Radioactive Sources
- Circular No. 25/2014/TT-BKHCN on stipulating the preparedness and response to radiological and nuclear emergencies, development and approval of response plans for radiological and nuclear emergencies, 2014
- Circular No. 13/2014/TTLT-BKHCN-BYT on stipulating assurance of medical radiation safety, 2014
- Circular No. 17/2011/TT-BYT on regulation of radiation limit level in food, 2011
- Circular No. 23/2012/BKHCN on guiding safe transport of radioactive materials, 2012
- Circular No. 08/2010/TT-BKHCN on stipulating granting of permits to conduct radioactive work and certificate of radioactive personnel, 2010
- National response plan on radiological and nuclear emergencies (draft pending Prime Minister's approval in 11/2016)

