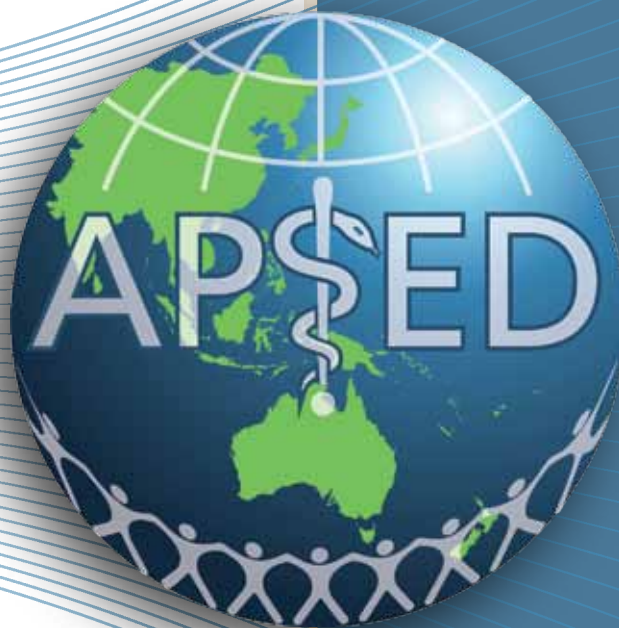


ASIA PACIFIC STRATEGY FOR EMERGING DISEASES

2010



**World Health
Organization**

South-East Asia Region Western Pacific Region

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ABBREVIATIONS AND ACRONYMS

APSED	Asia Pacific Strategy for Emerging Diseases
CBRN	chemical, biological, radiological and nuclear
EBS	event-based surveillance
EIS	(IHR) Event Information Site
EQA	external quality assurance
FET	field epidemiology training
GOARN	Global Outbreak Alert and Response Network
IBS	indicator-based surveillance
IHR	International Health Regulations
INFOSAN	International Food Safety Authorities Network
IPC	infection prevention and control
IQC	internal quality control
M&E	monitoring and evaluation
NFP	National IHR Focal Point
PHEIC	public health emergency of international concern
POE	points of entry
PPE	personal protective equipment
RRT	rapid response team
TAG	Technical Advisory Group
WHO	World Health Organization

Foreword

The *Asia Pacific Strategy for Emerging Diseases* (APSED) was developed in 2005 to meet the challenges of emerging diseases that pose serious threats to regional and global health security. It provided a common framework to strengthen national and regional capacities to manage emerging diseases, improve pandemic preparedness and comply with the core capacity requirements of the International Health Regulations (2005).

Implementation of APSED over the past five years in the 11 countries that comprise the WHO South-East Asia Region and 37 countries and areas that make up the WHO Western Pacific Region provided important lessons in pandemic response and demonstrated the need to further strengthen public health emergency preparedness and improve monitoring and evaluation.

The Asia Pacific Technical Advisory Group on Emerging Infectious Diseases, at its fourth annual meeting in July 2009, reviewed the significant achievements obtained in the five priority areas identified in the original strategy: surveillance and response; laboratory; zoonoses; infection control; and risk communications. The Technical Advisory Group recommended that APSED be updated to enhance the gains already achieved in the original five priority areas and use the achievements as a foundation to address a wider range of acute public health threats.

The recommendation of the Technical Advisory Group led to a series of intensive country-level assessments and discussions, as well as a biregional consultation that brought together regional and global experts, along with public health officials from various Member States. Those assessments and consultations led to a draft *APSED (2010)* in which three new focus areas have been added: public health emergency preparedness; regional preparedness, alert and response; and monitoring and evaluation. The draft *APSED (2010)* was reviewed and endorsed by the Technical Advisory Group at its fifth annual meeting in July 2010.

The development of the original APSED in 2005 was greatly influenced by several events in the Asia Pacific Region, including the emergence of severe acute respiratory syndrome (SARS) and avian influenza A(H5N1), and also by the adoption of the International Health Regulations (2005).

Since that time, the Asia Pacific region has experienced an increasing number of threats to public health, including the establishment of avian influenza as an endemic disease in some areas, the onset and subsequent global spread of pandemic influenza (H1N1) 2009, and a large number of other acute events with significant public health impact.

The past five years have also led to a greater appreciation of the need to acknowledge and strengthen links among agencies responsible for confronting acute public health threats. These include animal health authorities, departments concerned with the response to humanitarian emergencies, and those tasked with food, chemical and radiological safety. *APSED (2010)* aims to establish stronger links among these related public health programmes, thereby ensuring a joint approach to preparedness and response to all public health emergencies.

We all recognize that regional and global public health security cannot be achieved without strong mechanisms for international cooperation. One of the great successes of APSED and its alignment with the International Health Regulations (2005) has been the ability to draw together a wide range of partners, including Member States, donors, multilateral organizations and technical agencies. By engaging with all partners in this way and working towards a common vision, we also build regional solidarity, resilience and self-reliance.

We continue this journey in the aftermath of pandemic influenza (H1N1) 2009, which although not as severe as initially feared, tested public health and health care systems, revealing strengths and weaknesses but also providing opportunities to learn lessons and to improve our preparedness for future pandemic threats.

We certainly will continue to face new challenges as we move forward. But we can do so knowing that a strong foundation has been established, and that, thanks to the updated *Asia Pacific Strategy for Emerging Diseases*, we have a clear direction for the future.



A handwritten signature in black ink that reads "Samlee Plianbangchang".

Samlee Plianbangchang, M.D., Dr.P.H.
Regional Director
South-East Asia Region



A handwritten signature in black ink that reads "Shin Young-soo".

Shin Young-soo, M.D., Ph.D.
Regional Director
Western Pacific Region

Executive Summary

In recent years, the Asia Pacific region has been an epicentre for emerging diseases, resulting in significant impacts on health, social and economic development. Protecting the region from acute public health threats is, therefore, a top priority. The *Asia Pacific Strategy for Emerging Diseases* (APSED) was launched in 2005 as a common strategic framework for countries and areas of the region to strengthen their capacity to manage and respond to emerging disease threats, including influenza pandemics. In June 2007, the revised International Health Regulations (2005), known as IHR (2005), entered into force, calling upon countries and the World Health Organization (WHO) to strengthen their core capacities to detect, report and respond to acute public health events in order to build a global public health defence system. APSED serves as a road map to guide all countries in the region towards meeting the IHR (2005) core capacity requirements, thus ensuring regional and global health security.

Over the past five years, considerable progress has been made in the development and strengthening of the required core capacities. Incorporating recommendations from Member States and learning from experiences in implementing the original *Asia Pacific Strategy for Emerging Diseases*, which was jointly developed by the WHO South-East Asia Region and the WHO Western Pacific Region, as well as the response to pandemic influenza (H1N1) 2009, an updated strategy, *APSED (2010)*, has been developed. *APSED (2010)* will be implemented by building on the achievements of the original APSED, while recognizing variations in existing capacity levels across countries. It is intended that *APSED (2010)* will further support progress towards meeting IHR (2005) obligations and consolidate gains already made in establishing collective regional public health security. While *APSED (2010)* continues to focus on emerging diseases, it also seeks to maximize the benefits already achieved by widening its scope to include other acute public health threats and by identifying additional areas of synergy and special situations to which the Strategy can make important contributions.

APSED (2010) has expanded its scope to include eight “focus areas”:

- (1) surveillance, risk assessment and response;
- (2) laboratories;
- (3) zoonoses;
- (4) infection prevention and control;
- (5) risk communications;
- (6) public health emergency preparedness;

(7) regional preparedness, alert and response; and

(8) monitoring and evaluation.

Focus areas 1 to 6 concentrate on national and local capacity-building, focus area 7 addresses WHO regional capacity, and focus area 8 covers both national and regional monitoring and evaluation of *APSED (2010)* implementation.

While *APSED (2010)* is a common framework for all countries and areas, the individual situation and context in each of the 48 countries and areas of the Asia Pacific region must be considered when implementing the Strategy. This will require countries to develop individual APSED implementation plans to suit their own context and needs.

The intended audience for *APSED (2010)* is expected to be ministries of health, agencies working on emerging diseases in animal health sectors, food safety authorities and departments concerned with the management of other public health emergencies. Development agencies, donors and other partners are also strongly encouraged to use this framework to prioritize support to countries and thus maximize efficient use of resources.

In considering how *APSED (2010)* will be implemented, the collective and coordinated actions of Member States, technical experts, WHO and partners will be essential in ensuring that the goals and objectives are achieved. A multisectoral approach is most likely to enhance coordination, collaboration and harmonization among multiple national and regional stakeholders. It is of critical importance that capacity-building is supported by sustainable financing mechanisms and adequate human resources. Thus, countries and partners will be requested to develop and support a strategic approach to mobilizing the necessary resources to implement the Strategy at country and regional levels.

In order to ensure effective coordination and oversight of the Strategy, it is expected that the Asia Pacific Technical Advisory Group (TAG) on Emerging Diseases will continue to function. The TAG will be the key mechanism for provision of technical advice on the development and implementation of the Strategy.

SECTION 1: Introducing the Strategy



The Asia Pacific region is home to about 3.4 billion people, more than half of the world's population. With 48 countries and areas, the region is one of the most diverse in terms of culture, socioeconomic and development status, climate and geography. In recent years, the region has been an epicentre of significant disease outbreaks and public health events that have impacted not only health but also society, human security and economic growth. Protecting the region from acute public health threats is thus a top priority.

Public health events regularly occur in the Asia Pacific region, with about one public health event every two to three days detected and monitored by regional surveillance systems. With increasing travel, trade and mobility of people worldwide, emerging diseases and public health threats can easily cross international borders, moving from one population to another. Thus, truly effective regional public health security can only be achieved if collective actions are in place in the region. The unpredictable nature of outbreak-prone diseases and the need for a collective approach has clearly been demonstrated by severe acute respiratory syndrome (SARS), avian influenza and more recently pandemic influenza (H1N1) 2009.

The *Asia Pacific Strategy for Emerging Diseases* (APSED) was launched in 2005 as a common strategic framework for countries and areas of the region to strengthen their capacity to manage and respond to emerging diseases including epidemic-prone diseases. In June 2007, the revised International Health Regulations (2005), known as IHR (2005), entered into force and called upon countries and WHO to strengthen their capacities to detect, report and respond to acute public health events in order to build a global public health defence system. APSED serves as a road map to guide all countries in the region towards meeting the IHR (2005) core capacity requirements, thus ensuring regional and global health security.

Over the past five years, considerable progress has been made in the region towards strengthening the core capacities needed to prevent, detect and respond to threats posed by emerging diseases. In late 2009, a consultative, cooperative and collaborative process was initiated with Member States, technical experts and partners to build on experiences and lessons learnt from implementing the original APSED. It culminated in the formulation of an updated regional strategy, called *APSED (2010)*. *APSED (2010)* will be implemented building on the existing achievements of the original Strategy

while recognizing variations in existing capacity levels across countries. It is intended that *APSED (2010)* will further support progress made towards meeting IHR (2005) obligations and ensuring collective regional public health security by mitigating the health, economic and social impact of emerging diseases and public health emergencies in the region.

1.1 Scope

IHR (2005) provides WHO Member States and the WHO Secretariat with a legally binding framework within which they can address issues of preparedness for, recognition of and response to acute public health risks. Member States are required to develop, strengthen and maintain the core capacities required under IHR (2005) by June 2012. While emerging diseases including epidemic-prone diseases are an obvious and principal focus, IHR (2005) is also applicable to any acute public health event that may have international impact—thus including a broader range of public health threats posed by non-infectious disease events, such as food contamination due to chemicals.

The original APSED focused on building capacity for emerging diseases. However, detection and investigation of emerging infectious disease outbreaks has much in common with surveillance and assessment of other acute public health events, as required of countries under IHR (2005). Progress made in the five APSED focus areas, and the experience gained with pandemic response now provides a good foundation for countries to expand the scope of APSED activities. Moving forward, *APSED (2010)* continues to focus on emerging diseases, but it also seeks to build on this common approach and maximize the benefits achieved in the past five years by widening its scope to include other acute public health threats. Additionally, the Strategy will identify new areas of synergy and special situations to which the Strategy can make important contributions.

1.2 Intended audiences

APSED (2010) seeks to provide a common framework for countries, WHO and partners to work together to enhance regional defence against public health threats.

The primary audience for this Strategy is expected to be the Ministry of Health or the health sector in each country and area in the Asia Pacific region, in both high- and low-income countries. The Strategy should be used by departments responsible for the management of emerging diseases and other public health emergencies and by the unit designated as the National IHR Focal Point. Other important audiences include agencies working on emerging diseases in the agriculture and animal health sectors, food safety authorities, and departments concerned with the management of other emergencies such as natural disasters. Development agencies, donors and other partners are strongly encouraged to use this framework to prioritize support to countries to maximize the efficient use of resources.

1.3 Guiding principles

The following key guiding principles have been considered to shape *APSED (2010)* and will be used to guide *APSED (2010)* implementation.

- The primary focus of the Strategy should be on country activities, supported by partnerships at national, regional and global levels. Country activities, such as those related to the national surveillance systems, should be connected at the regional level.
- The actions taken should include advocacy and activities aimed at systematically strengthening institutional and human capacity in order to ensure sustainability of emerging disease programmes. Plans for capacity- building should be feasible and based on detailed local needs assessments.
- The actions taken through *APSED (2010)* should build on achievements of the original APSED at country and regional levels and contribute to health systems strengthening.
- The activities, policies and practices implemented through the Strategy should be based on evidence and consider gender, research and ethics aspects wherever possible and feasible, but they should be applied using local knowledge and expertise.
- Agencies responsible for the formulation and implementation of initiatives on emerging diseases should seek to identify synergies and strengthen links with other relevant programmes, such as those concerned with food safety or responsible for humanitarian emergencies.
- Collective efforts and actions using a common framework are emphasized to achieve the common goal of regional health security.

1.4 Use of the Strategy

It is highly recommended that the Strategy be used in the following ways:

- as a common framework to identify capacity gaps, agree on priority activities, and guide the building and strengthening of national and local capacities required for managing emerging diseases and other public health emergencies;
- as a mechanism to promote collective regional health security by establishing IHR (2005) core capacities for surveillance, risk assessment and response in all countries and areas of the Asia Pacific region;
- as a common framework to facilitate coordination of external support and to maximize multisectoral collaboration at national and regional levels; and
- as a strategic document to advocate for and mobilize financial and technical resources.

1.5 Time frame and targeted outcomes

It is anticipated that the implementation time frame for *APSED (2010)* will be five years (2011–2015).

When effectively implemented, the Strategy will ensure that countries of the Asia Pacific region have:

- core capacities to prevent, detect, characterize and respond to emerging disease threats and other acute public health emergencies of national and international concern; and
- strong functional mechanisms and networks for collaboration.

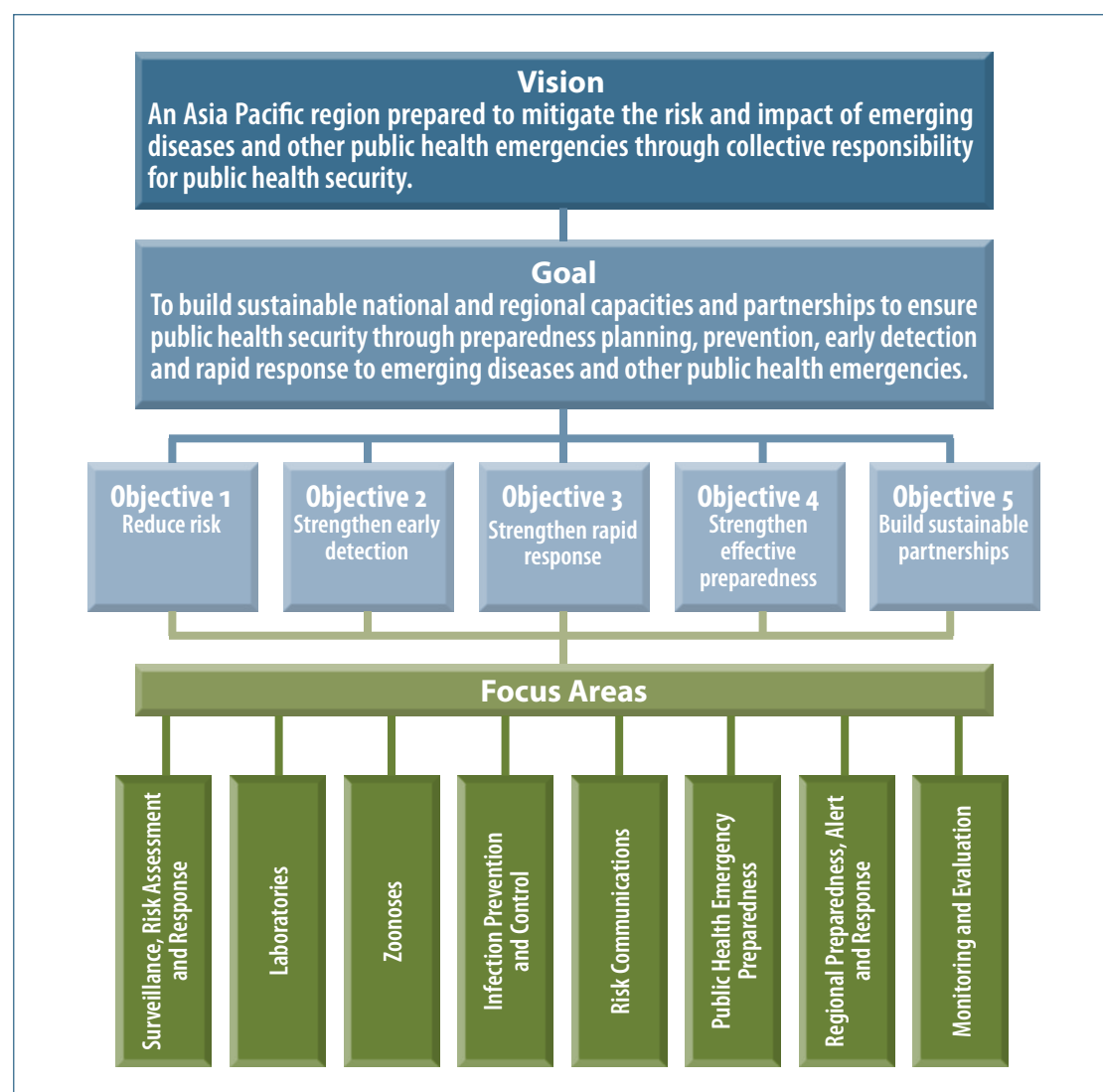
SECTION 2: Vision, Goal and Objectives



2.1 Vision

An Asia Pacific region prepared to mitigate the risk and impact of emerging diseases and other public health emergencies through collective responsibility for public health security.

Figure 2.1 APSED (2010) vision, goal, objectives and focus areas



2.2 Goal

To build sustainable national and regional capacities and partnerships to ensure public health security through preparedness planning, prevention, early detection and rapid response to emerging diseases and other public health emergencies.

2.3 Objectives

To achieve the goal, five interrelated objectives have been identified.

- **Objective 1:** Reduce the risk of emerging diseases.
- **Objective 2:** Strengthen early detection of outbreaks of emerging diseases and public health emergencies.
- **Objective 3:** Strengthen rapid response to emerging diseases and public health emergencies.
- **Objective 4:** Strengthen effective preparedness for emerging diseases and public health emergencies.
- **Objective 5:** Build sustainable technical collaboration and partnership in the Asia Pacific region.

2.4 Focus areas

To provide a focus for operational programme work and to achieve the goal and objectives of the Strategy, the following focus areas have been identified:

- (1) surveillance, risk assessment and response;
- (2) laboratories;
- (3) zoonoses;
- (4) infection prevention and control;
- (5) risk communications;
- (6) public health emergency preparedness;
- (7) regional preparedness, alert and response; and
- (8) monitoring and evaluation.

Focus areas 1 to 6 primarily aim at national and local capacity-building. Focus area 7 addresses strengthened WHO regional preparedness, surveillance, risk assessment and response systems. Focus area 8 refers to the monitoring and evaluation of *APSED (2010)* implementation activities at both national and regional levels.

SECTION 3: Focus Areas and Actions



This section describes each focus area, including its key components and proposed strategic actions that should be implemented for systematic capacity-strengthening.

Table 3.1 APSED (2010) focus areas and key components

Focus area	Key components
1. Surveillance, risk assessment and response	<ul style="list-style-type: none"> ▪ Event-based surveillance ▪ Indicator-based surveillance ▪ Risk assessment capacity ▪ Rapid response capacity ▪ Field epidemiology training
2. Laboratories	<ul style="list-style-type: none"> ▪ Accurate laboratory diagnosis ▪ Laboratory support for surveillance and response ▪ Coordination and laboratory networking ▪ Biosafety
3. Zoonoses	<ul style="list-style-type: none"> ▪ Coordination mechanism for: <ul style="list-style-type: none"> ○ sharing of surveillance information ○ coordinated response ○ risk reduction ○ research
4. Infection prevention and control	<ul style="list-style-type: none"> ▪ National infection prevention and control (IPC) structure ▪ IPC policy and technical guidelines ▪ Enabling environment (e.g. facilities, equipment and supplies) ▪ Supporting compliance with IPC practices
5. Risk communications	<ul style="list-style-type: none"> ▪ Health emergency communications ▪ Operation communications ▪ Behaviour change communications
6. Public health emergency preparedness	<ul style="list-style-type: none"> ▪ Public health emergency planning ▪ National IHR Focal Point functions ▪ Points-of-entry preparedness ▪ Response logistics ▪ Clinical case management ▪ Health care facility preparedness and response
7. Regional preparedness, alert and response	<ul style="list-style-type: none"> ▪ Regional surveillance and risk assessment ▪ Regional information-sharing system ▪ Regional preparedness and response
8. Monitoring and evaluation	<ul style="list-style-type: none"> ▪ Country-level monitoring (including workplan and APSED/IHR indicators) ▪ Regional-level monitoring: Technical Advisory Group ▪ Evaluation

3.1 Surveillance, risk assessment and response

Surveillance, risk assessment and outbreak response capacity is a prerequisite for effective management of emerging disease outbreaks and other acute public health events. Effective national surveillance systems generate reliable information for timely risk assessment that informs rapid public health actions.

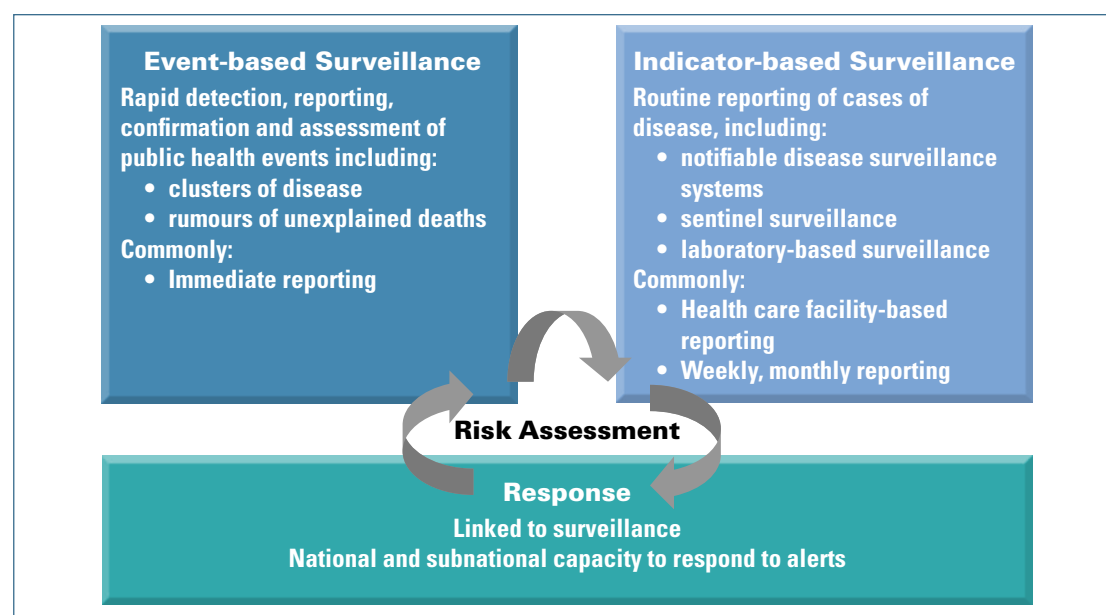
3.1.1 Key components

The key components required for an effective system of surveillance, risk assessment and response at the national and local levels are:

- event-based surveillance (EBS);
- indicator-based surveillance (IBS);
- risk assessment capacity;
- rapid response capacity;
- field epidemiology training (FET).

EBS is the organized and rapid capture of information about events that are a potential risk to public health. Information may be found in internet-accessible information sources such as news media sites, disease reporting networks, and other ad hoc reports transmitted through formal and informal channels. EBS can provide near real-time data on potential and confirmed disease outbreaks and other public health events, including events related to the occurrence of disease in humans, such as clusters of cases of disease and events related to potential human exposure (e.g. diseases and deaths in animals, contaminated food or water, and environmental hazards, including chemical, radiological and nuclear events).

Figure 3.1 Surveillance, risk assessment and response framework



IBS is the systematic collection and analysis of timely, reliable and appropriate data on priority diseases, syndromes and conditions. Data collection follows a predefined format and includes specific case or syndrome definitions. Data reporting and analysis occur regularly, typically once a week, and alert or epidemic thresholds are often used to identify outbreaks. IBS aims at outbreak detection, monitoring of disease trends and disease control programmes and programme planning. Use of appropriate information and communication technology (ICT) tools may aid in improving the quality of collection and collation of surveillance data at the national and local levels.

Risk assessment is a systematic process for gathering, assessing and documenting information to assign a level of risk for a potential public health event. This enables objective evidence-based decisions while giving consideration to the uncertainties and limitations of the information available at a particular point in time. It involves understanding the identity and character of a hazard and evaluating the risk of an adverse outcome in a population following exposure to that hazard. The process can also assess the risk associated with potential intervention measures. During an event, risk assessment is an ongoing process, not a one-time activity.

Rapid response capacity in this context refers to the ability to mobilize a routine and rapid investigation of and response to public health events at national and local levels. This includes development and deployment of rapid response teams (RRTs) to any level in the public health sector.

IBS and EBS are complementary and both are essential components of national surveillance systems. Surveillance information is used to help risk assessment, which in turn informs public health actions. Surveillance, risk assessment and response often require effective multilevel, multidisciplinary and multisectoral coordination. *APSED (2010)* provides a framework for Member States to create a robust system of surveillance, risk assessment and response that includes the above interlinked components, as described in Figure 3.1.

The surveillance and response system should be sensitive and broad enough to allow detection of other public health events, including non-infectious disease events (e.g. chemical and food safety-related events) and flexible enough to be adapted to special situations (e.g. mass gatherings, natural disasters). The surveillance and response priorities of each country should be informed through risk mapping so that any identified needs can be met.

FET has proved invaluable in establishing national capacities for early detection, prompt investigation and effective response to public health events. FET focuses on learning by doing in a work setting and building competencies applicable to emerging disease outbreaks and other public health events.

3.1.2 Strategic actions

- Continue to strengthen the existing EBS, IBS and rapid response components of national surveillance and response systems.

- Expand the scope of training of RRTs to support an all-hazards approach, with a specific focus on the initial assessment of events.
- Strengthen risk assessment capacity at all levels.
- Conduct national risk and vulnerability mapping to identify threats to public health, exposure factors, and the risk and protective factors that increase or decrease the adverse impact of an outbreak or other acute public health event on the population at risk.
- Build on existing mechanisms to promote and strengthen multidisciplinary and interagency coordination for surveillance, risk assessment and response.
- Consider the use of appropriate information and communication technology tools to support surveillance, risk assessment, and response activities.
- Strengthen field epidemiology training.

3.2 Laboratory

Efficient and reliable public health laboratory services are an essential component of any public health system that aims to effectively respond to emerging diseases.

Timely, accurate laboratory diagnosis in a safe environment is a cornerstone of any surveillance and response system for emerging diseases and other public health events. Strengthening national and regional capacity for accurate laboratory diagnosis, laboratory-based surveillance and networking, and biosafety is therefore an essential component of efforts to ensure regional health security. Public health laboratory capacity-building will continue to focus on emerging diseases under *APSED (2010)*, and these activities need to be coordinated with the *WHO Asia Pacific Strategy for Strengthening Health Laboratory Services (2010–2015)* and distinct regional strategies on the prevention and containment of antimicrobial resistance.

3.2.1 Key components

The key components of laboratory capacity-building to support emerging disease management are:

- accurate laboratory diagnosis;
- laboratory support for surveillance and response;
- coordination and laboratory networking;
- biosafety.

Accurate and timely laboratory diagnosis is essential for evidence-based clinical case management and also informs surveillance and risk assessment. Strong diagnostic capacity is therefore necessary to ensure implementation of appropriate measures to

reduce risk and mitigate the impact of disease outbreaks. Laboratory capacity needs to be established in all countries for the diagnosis of potential emerging diseases. This involves ensuring that internal quality control (IQC) and external quality assurance (EQA) are in place. In addition, links with reference laboratories will further enhance the capacity of public health laboratories and help with identification of unusual or new pathogens.

Support should be given to strengthen or establish links between public health laboratories and other laboratories that may need to be involved in surveillance, risk assessment and response activities, including clinical, veterinary and research laboratories. It is also important to strengthen laboratory capacities at the local level to support early detection of disease events and more routine surveillance activities. There is a need to provide incentives to recruit and retain skilled laboratory staff at the local level (e.g. provincial and district levels).

Because laboratory capacity varies within and between countries—and experience in dealing with different infectious agents is similarly uneven—national, regional and global laboratory networks are vital to support public health surveillance and responses. Laboratory networking between local and national reference laboratories needs to be strengthened and coordination among public health, clinical, food, veterinary and other laboratories ensured. Links should also be established with regional and global reference laboratories that provide highly specialized services. For example, chemical analysis and toxicology are unavailable or unobtainable in many countries. There is also a need to advocate for the formulation of policies and agreed procedures to facilitate seamless sharing of samples, reagents, training materials, guidelines and the experiences of laboratory management between national and regional reference laboratories.

Safe laboratory environments and safe practices are required to avoid staff members and other people from becoming infected by the hazardous agents they are handling or if there is an accidental release of the agent. Laboratory biosafety is best addressed by strengthening programmes through policy development, promotion of best practices through training and quality improvement activities, and ensuring that levels of biosecurity applied to every laboratory are matched to levels of assessed risk (i.e. according to the agent handled).

3.2.2 Strategic actions

- Strengthen accurate laboratory diagnostic capacity for priority emerging diseases through national IQC and EQA.
- Strengthen laboratory support and participation in emerging diseases or public health event surveillance, risk assessment and response systems.

- Ensure effective laboratory referral systems through strengthening national, regional and international laboratory networking and coordination with other laboratory services (such as animal and food laboratories) and highly specialized laboratory services.
- Strengthen laboratory biosafety activities to ensure diagnoses of emerging diseases are conducted in safe environments.

3.3 Zoonoses

Zoonotic diseases (i.e. zoonoses) are described as diseases or infections that are naturally transmissible from vertebrate animals to humans and vice versa. Recent evidence has shown that approximately 60% of all human diseases currently recognized and about 75% of emerging diseases that have affected humans over the last three decades have originated from animals. Prevention, detection and control of zoonotic diseases are therefore essential components of any national emerging diseases programme. Regionally and globally, the importance of zoonotic diseases has been recognized with the Food and Agriculture Organization of the United Nations (FAO), the World Organisation for Animal Health (OIE), and WHO working in collaboration with each other and with other partners to contribute to the concept of “One Health”.

Strengthening generic capacity in national surveillance, risk assessment and response systems, as well as other APSED focus areas such as risk communications and laboratory services, will help to ensure early recognition of, rapid response to, and prevention and control of zoonotic diseases.

Given the unique nature of zoonotic diseases, ensuring sustainable and effective coordination and collaboration mechanisms between the human and animal health sectors is vitally important and needs to be further strengthened. In addition, reducing the risk of transmission of zoonotic diseases from animals to humans often requires close collaboration and links with the food safety, environment and wildlife sectors. Experiences and lessons learned from avian influenza A (H5N1) in the region over the past few years provide a good foundation to consolidate and strengthen national and regional coordination mechanisms for surveillance information-sharing and coordinated responses by human and animal health sectors.

3.3.1 Key components

The key components of zoonoses coordination and collaboration are:

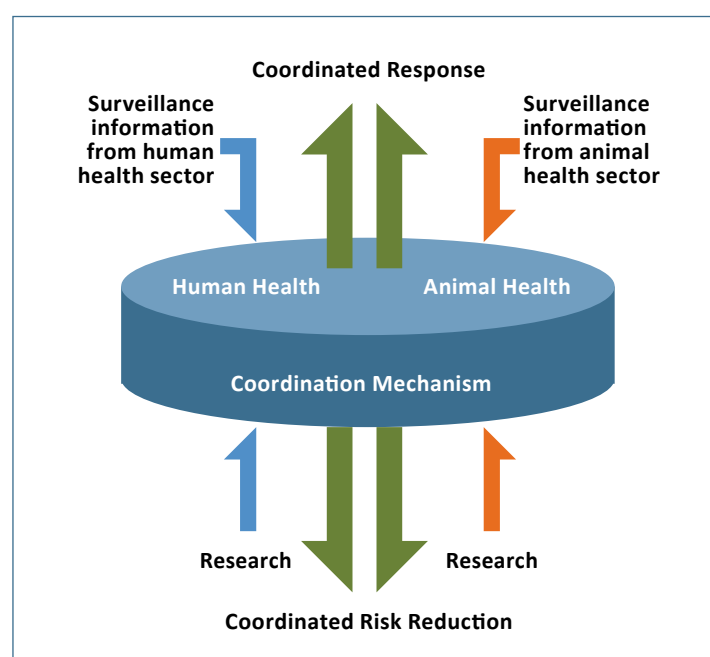
- sharing of surveillance information;
- coordinated response;
- risk reduction; and
- research.

Timely sharing of data collected through human health, animal health and food safety surveillance networks is critical to facilitate early reporting of zoonoses of public health importance. Coordination between human health, animal health, wildlife and other sectors will facilitate rapid epidemiological investigation and risk assessment of events and implementation of any required control measures. Advocacy is required to explore ways to consolidate, improve and sustain such coordination and collaboration mechanisms.

Reducing the risk of disease transmission at the human–animal interface is key to zoonoses prevention. In the past, it has occasionally been necessary to apply urgent interventions in a somewhat ad hoc manner because good evidence on risk-reduction measures was unavailable. A greater effort is therefore required to further identify and implement evidence-based measures to reduce the risk of animal-to-human transmission in a more sustainable way.

This will require collaborative research on zoonotic diseases in order to provide evidence for intervention and policy formulation. Strengthening operational research activities will require investment by both the animal and human health sectors.

Figure 3.2 Zoonoses coordination mechanism



3.3.2 Strategic actions

- Continue to strengthen and maintain existing zoonoses coordination and collaboration mechanisms for sharing of information and coordinated response through links or connections with surveillance, risk assessment and response systems in the human health, animal health, wildlife and food safety sectors.

- Determine long-term risk-reduction measures for priority zoonoses and implement sustainable risk-reduction activities through promoting best practices at the human–animal interface, collaborating with food safety programmes and implementing appropriate risk communications activities.
- Identify and strengthen collaborative operational research on zoonoses and share research findings and lessons learnt in a timely manner to inform public health action, whenever appropriate.

3.4 Infection prevention and control

Establishing effective infection prevention and control (IPC) practices in health care settings is essential to reduce the risk of transmission of emerging diseases to health care workers, patients, their families and the community. Systematic establishment of good IPC practices is a challenge, and there is room for significant improvement in many hospitals and other health care facilities in the region. IPC is not always considered a priority in many countries when compared with other activities required for responding to an outbreak.

Good IPC practices are especially important in health care facilities when outbreaks occur because of the risk that facilities will become epicentres for the spread of infection. In addition, infections in staff can critically affect delivery of health care services and provision of surge capacity when it is most needed.

It is important to acknowledge that IPC measures applied during an outbreak should be built on a solid foundation of good daily practice, i.e. that high-quality IPC practice in hospitals and other health care facilities are a prerequisite for effective outbreak response. There is now widespread consensus on the infrastructure and policies that should be established to underpin good IPC practice. Much remains to be done, including advocacy for implementation. Local IPC experts should be supported to be effective practitioners, trainers and advocates. Similarly, national centres of excellence should be identified, acknowledged and supported to eventually become IPC resources for countries and the region.

3.4.1 Key components

The following components have been identified as priorities under the Strategy:

- national IPC structure;
- IPC policy and technical guidelines;
- enabling environment (including facilities, equipment and supplies); and
- supporting compliance with IPC practice.

The establishment of effective IPC practice is best achieved by establishing strong IPC programmes, starting with health care facilities at the national level. These programmes should be led by multidisciplinary IPC committees and underpinned by dedicated staff, appropriate surveillance systems and mechanisms for quality improvement.

IPC policies and technical guidelines should be determined at the national level and adapted for local implementation.

Effective IPC practice also require establishment of safe working environments, including the physical infrastructure of hospitals and other health care facilities, regular supply of commodities and good administrative controls (e.g. arrangements for safe and appropriate management of health care waste).

Implementation of appropriate IPC practice can be monitored in a number of ways, including surveillance for hospital-acquired infections and antimicrobial resistance. However, standards of practice are probably ensured most effectively by establishment of programmes for continuous quality improvement (e.g. audit followed by feedback and support to address any issues identified).

3.4.2 Strategic actions

- Conduct IPC needs assessments that are helpful for advocacy, policy development, and monitoring and evaluation.
- Establish and strengthen organizational structure of national IPC programmes, including strengthening national and local multidisciplinary IPC committees, designating an IPC focal point within the Ministry of Health, and establishing a national IPC resource centre.
- Develop and implement evidence-based IPC policies and technical guidelines.
- Enable a supportive environment for IPC practice, including facilities, equipment and supplies.
- Establish mechanisms to support compliance with IPC practice.
- Identify and support national and regional IPC experts and centres of excellence to become agents of change.

3.5 Risk communications

Risk communications for public health emergencies encompass a broad range of communication capacities required during the preparedness, response and recovery phases of a serious public health event. Risk communication activities are particularly important in supporting the management of any acute public health event, especially at an early stage when decisive action has to be taken in the context of uncertainty. Effective risk communications also make a fundamental contribution to the management of emerging

diseases and other public health threats by informing decision-making, encouraging positive behaviour change and maintaining public trust.

3.5.1 Key components

The key components of risk communications are three interlinked functional areas that were identified during past outbreak responses, namely:

- health emergency communications
- operation communications
- behaviour change communications.

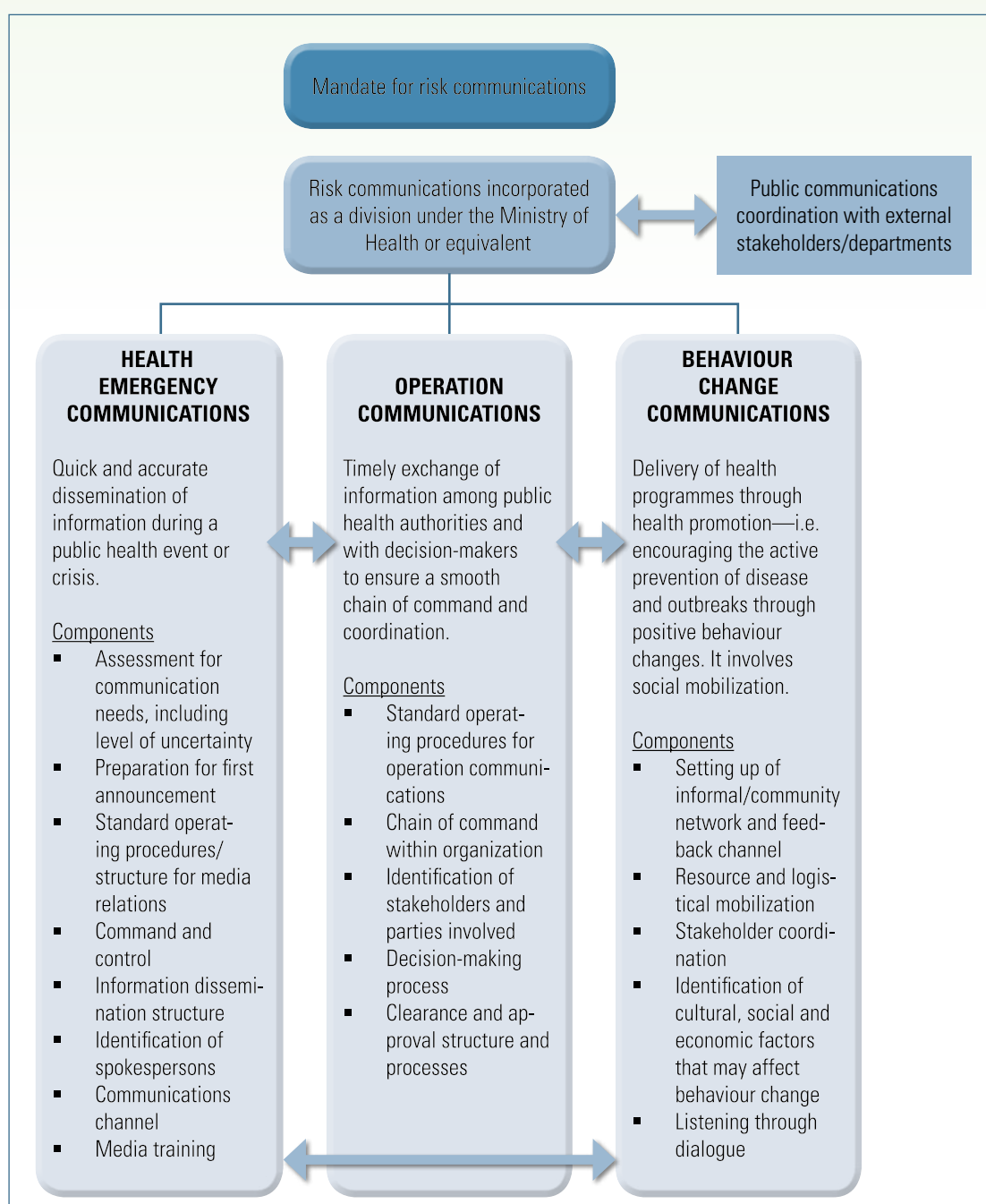
Health emergency communications refer to the rapid dissemination of information and health messages to target audiences during a health emergency. The objectives of health emergency communications are to build public trust, enable and empower populations to adopt protective measures, reduce confusion, and facilitate enhanced disease surveillance. This component includes the initial announcement and information dissemination through mass media.

Operation communications are the timely exchange of information among internal stakeholders including health authorities, clinicians, laboratories, decision-makers and other disciplines and sectors. Effective operation communications ensure coordinated response and keep decision-makers informed of the situation, enabling them to make informed choices on possible next steps and policy changes. In addition, operation communications should also take into consideration inter-country communications, especially when disease outbreaks or other public health emergencies affect cross-border areas.

Behaviour change communications refer to the establishment and implementation of health promotion programmes for prevention and control of emerging diseases and other threats to public health, including the promotion of protective behaviours and social mobilization during public health emergencies. Behaviour change communications adopt a long-term approach and work closely with communities.

Capacity-building efforts to date have largely focused on ad hoc outbreak communications and behaviour change initiatives during acute public health events. *APSED (2010)* will seek to strengthen risk communications capacity more systematically through the formulation and implementation of functional plans that establish a clear mandate for communications. It will also identify an organizational framework for the three communications components in order to strengthen overall risk communications capacity in a proactive rather than a reactive manner. This approach is illustrated in Figure 3.3.

Figure 3.3 Structure of risk communications and corresponding needs



3.5.2 Strategic actions

- Establish and promote risk communications concepts and a framework to ensure common understanding, interpretation and best practices of risk communications.
- Establish and enhance risk communications infrastructure (such as a risk communications unit) and coordination mechanisms to strengthen institutional

capacity. Consideration should also be given to development of ICT infrastructure to improve the speed of communications and to keep up to date with developments in social and online networking, which are increasingly becoming popular sources of news.

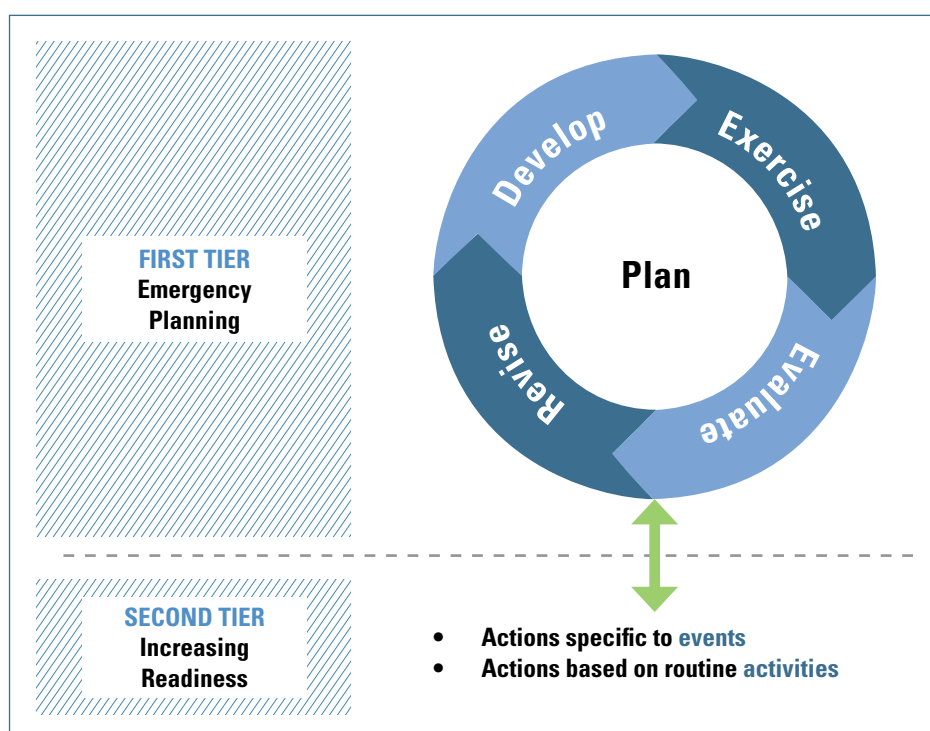
- Share risk communications best practices by building on real-world experiences, gained through responding to public health emergencies.

3.6 Public health emergency preparedness

Public health emergencies, particularly those events caused by outbreaks of emerging diseases, pose a serious threat to national and regional health security. Recent experience has demonstrated that effective preparedness can ensure a rapid public health emergency response and minimize negative health, economic and social impacts.

Building on lessons learnt from the pandemic preparedness and response planning under APSED over the past five years and experience gained through responding to pandemic influenza (H1N1) 2009, this focus area addresses the need for preparedness planning for public health emergencies caused by emerging diseases and other acute public health events. Since there are significant commonalities between pandemic preparedness and emergency planning for other acute public health events, *APSED (2010)* promotes a generic approach to public health emergency preparedness and response planning and threat-specific plans.

Figure 3.4 Two-tiered approach for public health emergency preparedness



Through experience and lessons learnt from pandemic preparedness, public health emergency preparedness should involve a two-tiered approach, as described below.

- **Emergency planning:** The first tier is to formulate, exercise, evaluate and revise a public health emergency response plan. Experience with exercising and revising these plans explicitly highlights the need to ensure a continuous cycle of developing and maintaining up-to-date emergency response plans.
- **Increasing readiness:** The second tier is to increase readiness and capacity to activate the plan. This effort can involve strengthening event-specific activities (such as stockpiling essential medicines for treatment and personal protective equipment), and actions related to routine generic capacity-building.

Many routine activities intended to improve readiness (such as strengthening surveillance, risk assessment and response systems, and risk communications) have already been described in the document. This focus area describes public health emergency planning with an emphasis on the continuous planning cycle and some specific preparedness activities that are critical but not yet addressed as separate focus areas under this Strategy, such as the National IHR Focal Point functions, clinical case management and response logistics.

The key components (preparedness activities) requiring specific attention to ensure effective public health emergency preparedness and response under this focus area are:

- public health emergency planning;
- National IHR Focal Point functions;
- points-of-entry preparedness;
- response logistics;
- clinical case management; and
- health care facility preparedness and response.

3.6.1 Public health emergency planning

Experience in recent years indicates that high impact public health events occur in the Asia Pacific region on a regular basis. Advance planning helps to identify and engage important partners, builds capacity and infrastructure, and provides operational links to ensure that a structured and coordinated response will follow when a public health emergency occurs. Many countries reported that the process of formulating and testing national preparedness plans was critical in supporting their responses to pandemic influenza (H1N1) 2009. This experience provides clear proof of the usefulness and importance of continuous public health emergency planning.

Public health emergency planning involves the formulation, validation, evaluation and revision of public health emergency response plans. This implies that plans should be updated regularly and be flexible enough to adapt to changing needs during a public health emergency response.

Two options can be considered when formulating and maintaining such public health emergency response plans within the health sector.

- A step-by-step approach to formulate an overarching generic public health emergency preparedness and response plan. Building on the experience of developing a national pandemic preparedness and response plan, a generic preparedness and response plan for all emerging diseases can be developed. Such a plan can then link to or expand to cover other public health events, such as food safety events. Links may also be established with emergency response plans for other events, including natural disasters and humanitarian emergencies.
- Specific plans can be formulated for a disease or event (e.g. an influenza pandemic response plan, a food safety emergency response plan).

APSED recommends that its focus areas are addressed and that streamlined coordination mechanisms be fully used to identify synergies while maximizing use of limited resources and infrastructure.

The key actions are:

- integrate the national pandemic preparedness and response plan into a public health emergency plan for all emerging diseases;
- formulate a generic public health emergency preparedness and response plan to address emerging diseases and other acute public health events (e.g. food safety events) for which the health sector is primarily responsible, and where appropriate, link with other emergency response plans;
- test and update the plan through regular exercises (e.g. table-top and field simulations); and
- establish tools, mechanisms and processes for multidisciplinary risk assessment and decision-making for significant public health emergencies.

3.6.2 National IHR Focal Point functions

National IHR Focal Points (NFPs) play a vitally important role in facilitating IHR event communications and information-sharing related to public health events and emergencies. Strengthening NFP functions and capacities therefore contributes to improvement of overall public health emergency management. The experience of responding to pandemic influenza (H1N1) 2009 clearly demonstrated how critical the

role performed by the NFP is and that the NFP should be part of national structures for public health emergency preparedness and response. Mandatory functions of the NFP under IHR (2005) include:

- sending urgent communications concerning IHR (2005) implementation to the WHO IHR Contact Point, in particular those communications related to event notification, reporting, consultation, verification, providing information, and determining whether an event is a public health emergency of international concern (PHEIC); and
- disseminating to and consolidating information from relevant government departments and other sectors within the country, including those entities responsible for surveillance and response, points of entry (POE), public health services and hospitals.

Although the functions of the NFP are well defined, the departments or units designated by countries to undertake these functions vary considerable in terms of their location, roles and capacities. While the NFP role in many countries is based in a communicable disease unit or in an emergency response unit, the NFP task is also carried out by different offices in other countries. In terms of function, while some NFPs carry out both communication and coordination, others focus primarily on IHR event communications.

Three options are available regarding the roles and responsibilities of NFPs.

- Primarily serve to facilitate IHR event communications for all public health events.
- Facilitate IHR communications for all public health events and coordinate IHR-related activities only for infectious disease events.
- Facilitate both IHR communications and coordination for all public health events.

The key actions are:

- establish, update, test and implement standard operating procedures that address terms of reference, roles and responsibilities of the NFP, as well as implementing structures, communication and/or coordination links with national stakeholders and WHO; and
- strengthen the NFP role in information-sharing through the use of the secure IHR Event Information Site (EIS) and facilitating intercountry communications, when appropriate.

3.6.3 Points-of-entry preparedness

The adoption of IHR (2005) represents the following “paradigm shift” involving a number of major changes in managing public health events:

- from a fixed list of diseases to all public health events and emergencies;
- from control of borders to also containment at source; and
- from preset measures to adapted responses.

With this paradigm shift, and as part of the national and international collective defence system for health security, POE now have a different role to play in detecting and responding to acute public health events and emergencies of national, regional and international concern.

The POE role can better be appreciated if it is placed in the context of the overall national and international systems for managing emerging diseases and public health emergencies. Collective efforts in managing public health risks and events at POE, effective POE public health emergency planning, sharing information, coordination and establishment of consistent border health measures can all contribute to national and international health security.

Strategic approaches to strengthening the POE public health function include use of existing tools, guidelines, facilities and services to strengthen routine public health functions at POE; encouraging POE participation in national and local systems for surveillance and response; emphasis on the importance of pre-arrangements with relevant agencies and service providers to ensure effective emergency preparedness and response; and encouraging regional collaboration and networking of POE public health authorities to ensure coordinated and consistent public health measures at international borders, when appropriate.

The key actions are:

- facilitate high-level advocacy and sensitization regarding the role of POE under IHR (2005) for both routine measures and emergency response;
- prioritize POE designation and build IHR core capacity at designated POE, especially through POE public health emergency planning in the context of the overall national public health emergency response structure; and
- promote regional and international partnership and collaboration on managing public health events and emergencies at POE.

3.6.4 Response logistics

In response to significant outbreaks of emerging diseases in recent years, countries in the Asia Pacific region have expressed the need to build and strengthen capacity for response logistics as an essential component of the response to emerging diseases and other acute public health events.

Response logistics goes beyond routine supply-procurement processes and applies to situations in which there is an urgent need to provide rapid logistics support, including deploying human resources, setting up communications, ensuring security, and arranging for the collection and shipment of clinical specimens in a compressed time frame. Coordination is essential to ensure timely and effective response logistics support when undertaking these activities during a disease outbreak or public health emergency.

The key actions are:

- advocate and promote the importance of response logistics within the health sector among national policy-makers, health officials and others;
- formulate a clear model for response logistics, including coordination mechanisms to be used during a public health emergency situation;
- ensure human resource development (e.g. trained outbreak response logisticians); and
- establish a more comprehensive response logistics system within existing health structures to support outbreak and public health emergency response.

3.6.5 Clinical case management

Delivery of high-quality clinical care is critical to minimize morbidity and mortality during any outbreak of an emerging disease. Although raising overall standards of clinical practice is beyond the scope of APSED, delivery of high-quality clinical case management for emerging diseases can be strengthened in some key areas.

The diversity of the Asia Pacific region results in significant variations in patterns of infectious diseases. Experience has also shown that these patterns change over time and that novel diseases emerge and spread, driven by factors including urbanization, climate change and international travel. It is critical that clinicians in all countries, including critical care specialists, are supported to rapidly identify and treat infectious disease cases in order to apply appropriate therapeutic and IPC measures. In addition, a vital need exists to ensure regional mechanisms are in place to facilitate sharing of information between clinicians on the features of emerging diseases, as well as diagnostic techniques and modalities of treatment.

It is also important to acknowledge the role that health care workers play in recognizing changes in known emerging diseases, and in the initial detection of new emerging diseases. Both of these are important events that require prompt reporting to public health authorities. Therefore, it is also important to establish strong links between health care and public health systems, both to facilitate rapid reporting of events by clinicians to surveillance departments and to ensure that public health authorities subsequently disseminate important information to relevant individuals throughout the health care system.

The key actions are:

- establish arrangements to allow mobilization of experts in clinical management to provide on-the-ground support if needed through the Global Outbreak Alert and Response Network (GOARN) or local networks;
- facilitate information exchanges on clinical management issues by connecting clinicians who have information needs to others with disease-specific expertise and specialist knowledge on clinical case management; and
- formulate relevant guidelines and training materials and distribute them in a timely manner during an outbreak.

3.6.6 Health care facility preparedness and response

During an outbreak of an emerging disease, most severely ill patients will be diagnosed and treated in a health care facility. However, during large outbreaks, demand for care can exceed normal delivery capacity, so plans need to be established to deal with this situation.

Health care facility preparedness and response plans should provide a comprehensive framework for responding to any emerging disease outbreak. They normally will include planning for providing surge capacity (for screening and triage, beds, staff, laboratory testing and communications), prioritization of treatment, supplies of consumables, and plans to strengthen clinical management and IPC. Individual facility plans should also be coordinated with the preparedness and response plans of other health care facilities in the same area in order to use resources in the most efficient way during a large-scale public health event.

Planning for delivery of health care during a large outbreak also needs to be coordinated at local and national levels. At the local level, plans for individual health care facilities should take into account existing “civil society” structures (e.g. health care volunteer organizations) and there must be coordination between health care facilities (e.g. a common understanding of protocols for transfer of patients). At the national level, information on hospital admissions, use of emergency services and use of consumables should be collected on a daily basis and analysed to ensure the most efficient and equitable delivery and coordination of health services.

The key actions are:

- formulate national guidance and training materials on health care facility preparedness and response planning and support planning process;
- establish arrangements for quality assessment of health care facility preparedness and response plans, including testing with table-top exercises and field simulations, and revision of the plans as indicated; and

- strengthen national coordination and oversight of health care delivery during a large outbreak to address surge capacity and ensure efficient and equitable delivery of health services.

3.7 Regional preparedness, alert and response

Threats to public health, such as emerging diseases, go beyond national borders. IHR (2005) places a requirement on WHO to strengthen regional and global systems and capacity for surveillance, risk assessment and response in order to support countries by ensuring that rapid and appropriate support can be provided for these activities in response to acute public health events.

3.7.1 Key components

The key components of regional preparedness, alert and response are:

- regional surveillance and risk assessment;
- regional information-sharing system; and
- regional preparedness and response

Effective surveillance and risk assessment at the regional level relies upon having established event-based and indicator-based surveillance systems, as it does at the country level. Regional event-based surveillance involves collecting and analysing information about events that may be a potential risk to regional public health. These data are collected by using informal and formal information sources, such as media reports and government statements and official IHR communications. Regional indicator-based surveillance involves the collation of routinely reported national disease data at the regional level, accompanied by timely analysis and joint risk assessment. Surveillance has the potential to provide an additional early warning system for all countries, particularly for diseases such as dengue that can spread rapidly across the region. Regional risk assessment is conducted to identify and characterize public health threats and to evaluate any associated risks. Risk assessments are conducted daily by WHO on event-based data and reports on priority diseases in order to ensure that WHO is operationally ready to support countries at any time, as required under IHR (2005).

Regional information-sharing is an essential part of an effective preparedness, alert and response system. Timely and accurate sharing of information at the regional level helps inform evidence-based public health actions. Information that may be useful in informing optimal public health action can include immediate information on acute public health events, real-time information on evolving public health events, surveillance data, guidelines, reports, examples of best practices in the control of emerging diseases, and publications on regionally relevant epidemiological and other findings.

Regional response is the capacity to provide or facilitate support to countries during a response to an acute public health event, such as a disease outbreak, a food safety

event, or a release of toxic agents. Ensuring this response capacity, which may include accessing existing networks and regional stockpiles, is an essential component of regional preparedness.

3.7.2 Strategic actions

- Strengthen regional surveillance and risk assessments by establishing a regional indicator-based surveillance system for priority diseases and rapid feedback mechanisms for surveillance information.
- Strengthen the regional surveillance system for public health emergencies.
- Strengthen the regional information-sharing system to help provide more relevant and reliable data to inform evidence-based public health action.
- Strengthen comparability of national data at the regional level through a number of initiatives, including drawing up a minimum data set for rapid assessment of novel (previously unknown) diseases.
- Strengthen technical response networks through expanding and using GOARN partners and other experts in the identification, preparation and response to acute public health events.
- Build networks of relevant experts and strengthen links between national and reference laboratories to enable access to specialized laboratory services for emerging diseases and other public health threats.

3.8 Monitoring and evaluation

Monitoring and evaluation (M&E) are integral components of *APSED (2010)* and its implementation. Robust M&E is fundamental to meet two critical management needs: accountability and learning. In the context of this Strategy, accountability can be defined as the ability to demonstrate that the Strategy is effective in achieving its objectives, that its priorities are appropriate, and that resources have been used optimally. Similarly, learning (within the context of M&E) can be defined as understanding what is working and what can be done better, which in turn helps to ensure that decisions are based on evidence, facilitating continuing improvement.

3.8.1 Key components

A combination of country- and regional-level components is proposed to strengthen the M&E system under the Strategy:

3.8.1.1 Country level

- Country workplans
- APSED/IHR indicators

Establishment of national workplans to achieve APSED (2010) objectives will support a structured approach to capacity-building. Clear timelines and progress indicators to monitor workplan implementation can then be used to monitor implementation of APSED, as well as the progress of national capacity-building towards IHR (2005) compliance, when appropriate. Country workplans enable countries to assess their own progress and identify needs and opportunities. This approach may be particularly useful to facilitate donor coordination for resource-limited countries.

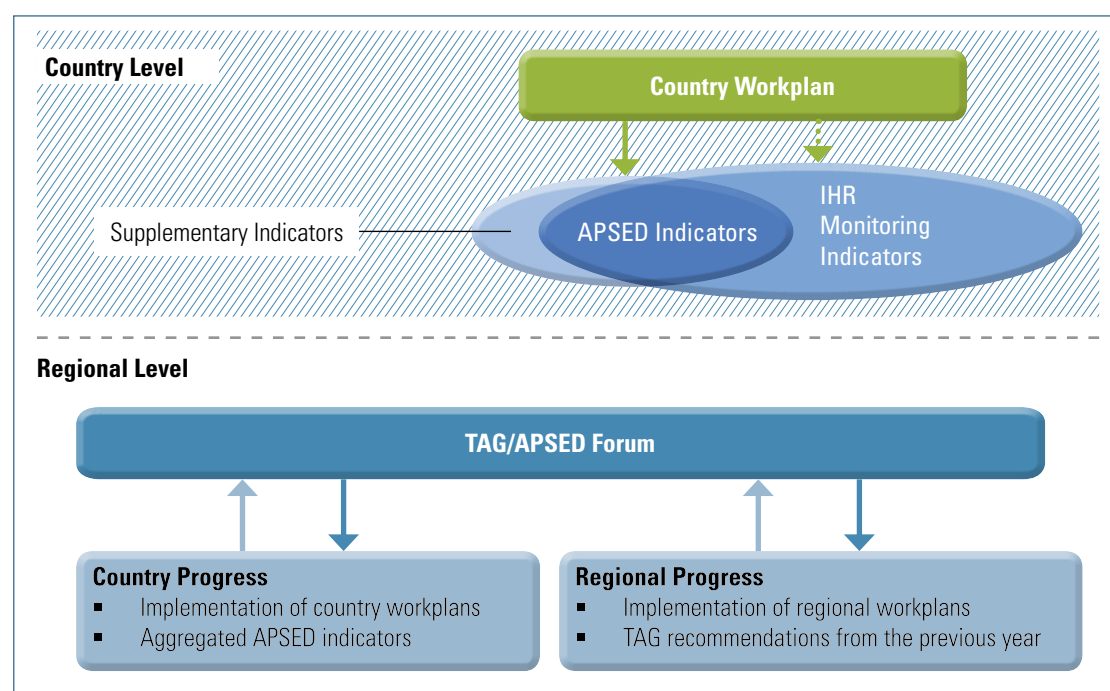
A number of APSED indicators will be identified and monitored at the regional level. These indicators will be selected from the IHR Monitoring Framework for monitoring progress in the implementation of IHR core capacities in State Parties and supplemented, where necessary, by indicators set up for areas requiring specific consideration under APSED (2010). Countries also may wish to consider referring to these APSED indicators as the basis for a national tool to monitor capacity-building. Whenever possible, M&E indicators from relevant existing programmes can be utilized to reduce the burden of data collection.

3.8.1.2 Regional level

- TAG mechanism (or equivalent)

The annual Technical Advisory Group (TAG) meeting, or its equivalent, also performs a monitoring role by reviewing progress made in the past year and making recommendations to provide a focus for implementation in the forthcoming year. It is a unique forum for countries, technical experts and partners to meet and discuss APSED issues and share experiences with counterparts in the Asia Pacific region.

Figure 3.5 APSED (2010) monitoring and evaluation structure



Strengthening M&E activities at this level will help identify national gaps in M&E and improve each country's capacity.

External evaluation will be conducted at the conclusion of the Strategy implementation period, when appropriate and agreed upon by concerned countries. However, a balance is needed to ensure that M&E helps build country capacity and improve country ownership.

3.8.2 Strategic actions

- Strengthen the capacity of countries to implement M&E tools and systems, including use of the IHR Monitoring Framework.
- Enhance the M&E function of the TAG to become a more robust annual monitoring mechanism e.g. through reviewing annual aggregated data from the IHR questionnaire and encouraging Member States to participate in the annual TAG meeting, or its equivalent.

SECTION 4: Special Situations and Approaches



There are a number of special situations that may require consideration and modified approaches when implementing *APSED (2010)*.

Several countries and areas, such as the Pacific island countries and areas, Bhutan, Maldives and Timor-Leste, face unique national and local capacity-development challenges due to a combination of factors, such as the small size of population, geographical isolation, limited infrastructure and resources, and low baseline *APSED* capacity. Considering this special situation, tailored approaches may be applied by these countries and areas when implementing *APSED (2010)* to meet the IHR (2005) requirements. Suggested approaches include:

- addressing challenges faced by areas of special public health needs, while implementing capacity-building activities in all of the *APSED* focus areas;
- allowing flexibility to adapt the regional Strategy to meet the special situations present in areas of public health needs, including approaches to resource-sharing and the implementation of standardized syndromic surveillance systems;
- addressing human resource development as a high priority through distance learning, in-country training and formal education focused on public health, when appropriate; and
- strengthening Pacific regional coordination mechanisms, international laboratory networks and improving interagency technical support.

Specific event situations, such as mass gatherings or the deliberate release of chemical, biological, radiological or nuclear (CBRN) agents should also be considered where relevant. Suggested approaches include:

- using or adapting existing public health preparedness, surveillance and response systems and networks to address specific event situations where required;
- utilizing specific event situations, such as mass gatherings, as an opportunity to obtain government and external support to strengthen long-term improvement of existing public health systems and capacities (i.e. establishing a health legacy); and

- strengthening regional preparedness to support public health responses for identified specific event situations and strengthening regional networks to facilitate sharing of experience and lessons learnt.

Social and environmental factors such as gender, inequality of services, migration and climate change may also impact emerging disease programmes. These contextual factors may be taken into consideration where relevant and feasible, when implementing *APSED (2010)*. Possible approaches include:

- supporting and participating in relevant advocacy and awareness activities;
- participating in initiatives related to social and environment factors that have clear implications for addressing emerging diseases; and
- addressing gender through identification and implementation of specific actions where appropriate, given its importance in relation to emerging diseases.

SECTION 5: Implementing the Strategy



Emerging diseases and public health emergencies have substantial negative economic impact on travel, tourism and trade, and may cause significant social disruption and security concerns. Collective actions of countries, technical experts, WHO and partners to implement the Strategy in a coordinated fashion are essential to achieve the goal and objectives of *APSED (2010)*—ensuring regional public health security.

A multisectoral approach, which enhances national and regional coordination, collaboration and harmonization among different stakeholders and is supported by adequate human resources and sustainable financing mechanisms, is required to implement the Strategy effectively.

M&E is a critical component of Strategy implementation and has been included as one focus area under Section 3.

5.1 Regional coordination and management model

The following mechanisms are recommended to facilitate regional-level communication, coordination, management and monitoring of the Strategy (Figure 5.1).

5.1.1 Executive functions

Regional Committees, WHO's governing bodies in the South-East Asia and Western Pacific Regions, or other high-level forums of senior decision-makers from each national health authority, such as the meeting of health ministers, will be used, when appropriate, to ensure political commitment, to engage in policy decisions (e.g. through adoption of resolutions), and to support activity implementation (e.g. through progress reporting).

5.1.2 Technical Advisory Group

The Asia Pacific Technical Advisory Group on Emerging Diseases will continue to function as the key mechanism to provide technical advice on the formulation and implementation of the Strategy. Given the broader scope of *APSED (2010)*, the membership and the terms of reference of the TAG will be reviewed in 2011.

To strengthen biregional collaboration while addressing interregional diversity and country-specific needs in the South-East Asia and Western Pacific Regions, TAG

meetings should be held annually and alternate between regional and biregional meetings. This will allow more detailed review of the overall progress in relation to implementation of the Strategy in each region and facilitate greater sharing of best practices, experiences and lessons learnt in *APSED (2010)* implementation. Separate forums for the Pacific island countries and areas should be considered during the implementation period.

5.1.3 Informal working groups

Given the broad scope of the Strategy, there is the need to convene time-limited ad hoc technical working groups, informal consultations or regional workshops on a particular focus area to address specific issues such as formulation of technical guidelines. Outcomes and progress from such activities should be reported to TAG meetings, as relevant.

5.1.4 Partners' forum

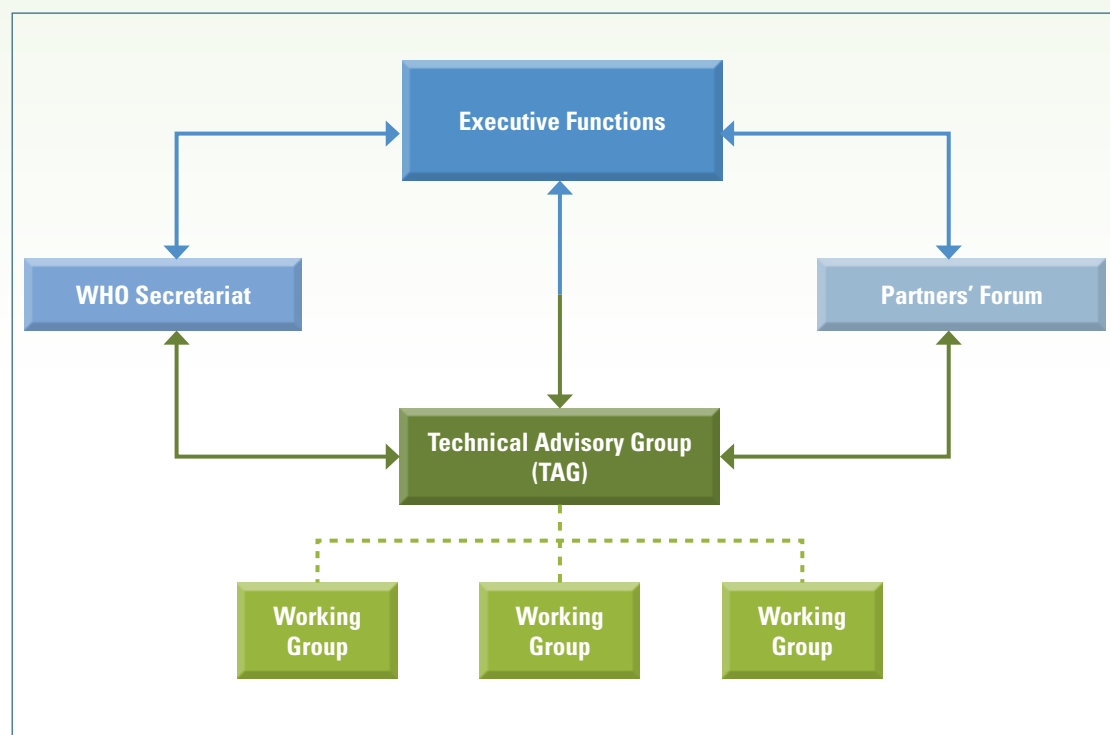
The Strategy provides a common framework for countries and partners to work collectively to ensure national and regional systems and capacities are in place for managing emerging diseases and public health emergencies. Partners are strongly encouraged to work with countries and WHO to achieve the goal of regional health security under this common framework. Technical and financial support from donor agencies and technical partners is essential to the success of the Strategy.

The current partners' forum for donor coordination and regional collaboration with key stakeholders will be enhanced. Partners may include bilateral and multilateral organizations, United Nations agencies, intergovernmental and nongovernmental organizations, professional associations, and existing regional or subregional networks.

5.1.5 Collaboration and coordination with other initiatives

APSED (2010) activities, wherever relevant, will link with or coordinate with other national, regional and global activities and initiatives, including national health systems strengthening, the proposed *Western Pacific Regional Food Safety Strategy (2011–2015)*, and the Global Outbreak Alert and Response Network (GOARN). *APSED* implementation will also collaborate and coordinate with other sectors, including the private sector and civil society.

Figure 5.1 Regional Coordination and Management Model for APSED (2010)



5.2 National-level mechanisms

Effective mechanisms for national-level management, coordination, oversight and implementation should be identified as part of the national-level review and planning processes undertaken as the first step in planning national implementation. National planning and implementation require a multisectoral approach that enhances streamlined communication, coordination and collaboration among different government departments, agencies and partners.

Countries are encouraged to consider the following mechanisms (or similar approaches) to ensure implementation, when appropriate:

- Designation of an office or a national coordinator within the health sector or the Ministry of Health to coordinate overall implementation of the APSED focus areas of work. Depending on the national structure, some countries may consider emerging infectious diseases department and the National IHR Focal Point to coordinate and manage Strategy implementation.
- Establishment of a standing implementation committee or a similar mechanism with representation from senior public health executives and their counterparts from other sectors (e.g. animal health, food safety, hospitals and disaster management) and national focal points with primary responsibility for Strategy implementation.

5.3 Financial resource mobilization

Health security is the prevention or reduction of health, social and economic impacts from adverse public health events. Ensuring regional health security requires sustainable financial investment from both national governments and international partners. Formulation and implementation of this common Strategy represents a joint commitment and collective effort to ensure that all countries are safer and more secure in the face of emerging diseases and other acute public health threats. Effective implementation of the Strategy to achieve such a common goal requires sustainable financial support.

Countries and partners will be required to establish and support a strategic approach for mobilizing adequate and sustainable financial resources to implement the Strategy at both the country and regional levels.

State parties to IHR (2005) have specific responsibilities to collaborate through provision or facilitation of technical cooperation and logistical support, and to the extent possible, in mobilization of financial resources to provide support to lower-income countries in building, strengthening and maintaining the capacities required under IHR (2005). High-income countries are strongly encouraged to provide financial resources to support resource-limited countries.

Recommended mechanisms and options for countries and various stakeholders and potential partners include:

- strengthening preparedness-driven resource mobilization by creating an annual budget; using national action plans to mobilize long-term resource commitments from countries, donors and partners; refocusing from a response-driven to a generic preparedness-driven resource mobilization approach; and investigating the possibility of establishing an emergency contingency funds to ensuring that adequate funds are available immediately for responding to emergency situations;
- strengthening financial mechanisms through bolstering existing national financial mechanism and seeking alternative financial mechanisms (e.g. expanding financial mechanisms to include partnerships with the private sector);
- providing external assistance to countries in preparing programme proposals and building partnerships; and
- strengthening advocacy through formulating and disseminating a set of information and advocacy packages to raise awareness of *APSED (2010)*.

ANNEX 1: Process of Developing APSED (2010)

The updated *Asia Pacific Strategy for Emerging Diseases*, now called *APSED (2010)*, builds upon the original *Asia Pacific Strategy for Emerging Diseases (2005-2010)*. In July 2009, the fourth annual meeting of the Technical Advisory Group (TAG) on Emerging Infectious Diseases recognized the value of APSED in helping Member States implement IHR (2005) core capacity requirements and supported the continuation of APSED beyond December 2010. The TAG thus recommended that the current Strategy be reviewed and an updated Strategy be developed for a further five-year period. In addition, the TAG recommended that:

“The scope of the next Strategy should continue to focus on emerging infectious disease threats. However, the capacity and the mechanisms to respond to non-infectious disease events should also be addressed in the next five-year strategy in line with the IHR requirements.”

Beginning in late 2009, a number of consultative processes were initiated to review the progress of APSED, to learn from pandemic influenza (H1N1) 2009, and to consult countries for their perspectives, ideas and opinions on the future direction of the updated APSED.

Experiences and lessons learned from APSED

APSED proved to be a useful, common framework for countries, WHO and partners to work collectively towards the common regional goal of early detection, rapid response, effective preparedness, and partnership for emerging diseases. The five programme areas identified in APSED have made a significant contribution to managing emerging disease threats, including assisting the response to pandemic influenza (H1N1) 2009 and strengthening IHR (2005) core capacity requirements for surveillance and response.

APSED has been a helpful tool for Member States to identify priorities, facilitate multisectoral national planning, coordinate various project-based activities, and improve resource mobilization. APSED has contributed to the alignment of donor investments in strengthening national and regional capacities, and has also provided a framework to strengthen regional collaboration and partnerships.

Progress was made in all five APSED programme areas, particularly in enhanced surveillance and response systems. This achievement now provides a good foundation for Member States to expand the scope of APSED activities that are essential for early detection and rapid response to other public health events and emergencies.

Other lessons were learnt to improve APSED, including the need to improve communication on the relationship between APSED, APSED workplans and implementation of IHR (2005); the need to clarify the links between APSED programme areas and objectives; the importance of strong national-level coordination mechanisms; and the need to balance time and resources used for country assessments and activity implementation given the complex number of actions taken to develop, implement and evaluate APSED.

Learning from pandemic influenza (H1N1) 2009

In 2009, the world experienced the first influenza pandemic since 1968. Pandemic influenza (H1N1) 2009—a major global public health event—provided an opportunity to test the preparedness, resilience and responsiveness of countries, WHO and IHR (2005). The pandemic response in the Asia Pacific region demonstrated the value of investments in strengthening country capacity through implementing APSED. Enhanced national capacities and regional networking for influenza surveillance, including improved national influenza centre capacities, significantly contributed to the timely detection and investigation of the initial cases of the pandemic virus infection in the region. In addition, the investment and progress made in strengthening influenza surveillance and response over the past several years also helped improve the core capacities required for other emerging diseases.

Pandemic readiness assessment and capacity monitoring allowed WHO to conduct a rapid gap analysis at the early stage of the pandemic and develop a Framework of Action for preparing for and responding to the pandemic. The framework highlighted the following priority actions for countries to prepare for the pandemic influenza (H1N1) 2009 response:

- command and control
- surveillance (with laboratory support)
- health care response
- public health intervention
- communications (including operation and outbreak communications).

IHR (2005) has proven to be a valuable mechanism for sharing information to assess the pandemic risk and to monitor the global and regional situations. The National IHR Focal Points in the region have been critical in facilitating IHR communications, such as notification and reporting.

Several key challenges and lessons have been identified during the pandemic response in the Asia Pacific region.

- Conducting surveillance and risk assessments at national and regional levels, such as monitoring the spread and impact of the pandemic, is not easy.

Comprehensive and timely availability of data was limited. In addition, many countries changed their surveillance systems during the pandemic, which undermined routine influenza-like illness surveillance and made comparisons to historical data and between countries difficult.

- Pandemic preparedness and response plans require flexibility. Many pandemic preparedness plans were developed based on the scenario of human-to-human transmission of a highly pathogenic influenza virus, as well as the experience obtained from the 2003 SARS response. This assumption posed as a challenge to adapt the pandemic response to other scenarios.
- Communication about uncertainty is difficult for Member States and WHO. Pandemic influenza (H1N1) 2009 had been evolving since April 2009 and dynamic risk assessments to inform risk communications and public health actions were and remain crucial.
- Decision-making to shift from “containment” to “mitigation” was not always timely or based on public health evidence. Not all countries had fully developed operational plans to guide response efforts. For example, in some countries initial strategies for extensive laboratory testing to detect cases resulted in an excess burden on laboratory resources. Similarly, timely technical guidance to facilitate decision-making for pandemic responses, such as screening at borders and closing schools, was difficult.

Consultative process of developing *APSED (2010)*

During implementation of APSED, requests from Member States and recommendations from the TAG were made to include new activity areas, such as response logistics, clinical management and health care preparedness. In addition, a need to strengthen public health emergency preparedness and response was expressed by Member States, including public health measures and emergency planning capacity at designated points of entry, as required under IHR (2005).

In July 2009, the 4th Meeting of the Asia Pacific Technical Advisory Group on Emerging Infectious Diseases reviewed APSED implementation status and recommended that the two WHO regional offices—the South-East Asia Regional Office and the Western Pacific Region Office—review experiences and lessons from implementation of the current APSED and develop an updated biregional strategy in consultation and collaboration with Member States and partners.

From September 2009, a review of APSED implementation and the “Beyond APSED” country consultation process were initiated through various means, including meetings of Emerging Disease Programme Managers and National IHR Focal Points; formal multisectoral workshops; informal discussions between WHO country offices and national counterparts; formal progress assessments; and an external APSED evaluation.

This review and consultative process with Member States was initiated to gain their perspectives, ideas and opinions on the future direction of the updated APSED. During these consultations, countries were asked to identify their key public health concerns and requirements for capacity-strengthening over the next five years. Given the expanded scope of IHR (2005), countries were asked if they thought the existing five core APSED programme areas were useful and relevant, and if they could identify additional necessary programme areas that should be included in order to address the wider scope. In addition to revised and new programme areas, countries were asked to identify cross-cutting issues and special situations that may be addressed in the updated Strategy.

A meeting of National IHR Focal Points in the South-East Asia Region was held in February 2010 to obtain views of Member States on the next regional Strategy. In the Western Pacific Region, individual “Beyond APSED” consultations were held with a number of countries, namely Cambodia, China, the Lao Peoples Democratic Republic, Malaysia, Mongolia, the Philippines and Viet Nam. Joint consultation with the Pacific island countries and areas was held at the meeting of Pacific National IHR Focal Points on Syndromic Surveillance for the Pacific in March 2010.

The Member State consultation process has identified country needs and expectations for national capacity-building as required under IHR (2005), in particular the National IHR Focal Point function, points of entry, and public health emergency preparedness. The process has also helped identify the wide range of issues elaborated in the Discussion Papers that were reviewed by experts at the Biregional Consultation on the Asia Pacific Strategy for Emerging Diseases and Beyond in May 2010, in Kuala Lumpur, Malaysia. This consultation also discussed the possible structure of a new Strategy and identified areas for focused national capacity-building over the next five years. The consultation concluded that:

- the current five APSED programme areas (including FET) provide a good foundation for emerging diseases, but still require further development to fully address emerging diseases and other public health threats;
- two areas (points of entry and public health emergency preparedness and response) that are required under IHR (2005) but are not individually identified in the current APSED should be incorporated in *APSED (2010)*;
- given the experience gained with APSED implementation, two further areas (monitoring and evaluation, and regional preparedness, alert and response including information-sharing for public health action) are implicit in APSED and warrant recognition;
- the new activity areas requested by Member States and recommended by the TAG during APSED implementation (response logistics, case [clinical] management, and health care preparedness) can be incorporated into the above areas; and

- the remaining discussion topics (Pacific island countries and areas, food safety, humanitarian emergencies, mass gatherings, deliberate release of agents, social determinants of health, and climate change) can be included for special consideration.

The 5th Meeting of the Asia Pacific Technical Advisory Group for Emerging Infectious Diseases in July 2010 reviewed and endorsed *APSED (2010)*, concluding that *APSED (2010)* will play a vital role in guiding Member States, WHO and partners in future efforts to build capacity for managing emerging diseases and other public health emergencies.

ANNEX 2: Glossary of Selected Terms

Term	Definition and description
Asia Pacific region	The Asia Pacific region in the document includes the 48 countries and areas of two regions of the World Health Organization—the South-East Asia Region and the Western Pacific Region.
Climate change	A change of climate attributed directly or indirectly to human activity that alters the composition of the global atmosphere, in addition to natural climate variability observed over comparable time periods (Adopted by the UN Framework Convention on Climate Change).
Emerging diseases	Infections that newly appear in a population, or have existed but are rapidly increasing in incidence or geographic range, including new diseases as well as re-emerging and resurging known diseases, and known epidemic-prone diseases. The term “emerging diseases” is used interchangeably with emerging infectious diseases.
Mass gathering	Any event at which the number of people attending is sufficient to strain the planning and response resources of the community, state or nation hosting the event.
Monitoring and Evaluation	Monitoring refers to the process of regular oversight of the implementation of activities, seeking to ensure that input deliveries, work schedules, targeted outputs and other required actions are proceeding as planned. Evaluation refers to a process that attempts to determine as systematically and objectively as possible the relevance, effectiveness and impact of activities in light of their objectives.
National IHR Focal Point	The national centre, designated by each State Party, which shall be accessible at all times for communication with WHO IHR Contact Points under IHR (2005).
Public health security	The proactive and reactive activities required to minimize vulnerability to acute public health events that endanger the collective health of national populations. Regional public health security widens this definition to include acute public health events that endanger the collective health of populations living across the Asia Pacific region. Lack of regional health security may have an impact on economic or political stability, trade, tourism, access to goods and services in the region.
Point of entry	A passage for international entry or exit of travellers, baggage, cargo, containers, conveyance, goods and postal parcels as well as agencies and areas providing services to them on entry or exit. It includes international airports, ports and ground crossings under IHR (2005).
Public health risk	Under IHR (2005), public health risk is defined as a likelihood of an event that may affect adversely the health or human populations, with an emphasis on one which may spread internationally or may present a serious and direct danger.
Public health emergency	An occurrence or imminent threat of an illness or health condition, caused by bioterrorism, epidemic or pandemic disease, or novel and highly fatal infectious agent(s) or biological toxin or agents, that poses a substantial risk of a significant number of human fatalities or incidents or permanent or long-term disability. For the purpose of this document, a public health emergency mainly refers to an emergency caused by emerging diseases and/or other acute public health events such as food safety events. If not managed quickly, it may go beyond national borders and cause a public health emergency of international concern like an influenza pandemic.
Risk assessment	Risk assessment is a systematic process for gathering, assessing and documenting information to assign a level of risk for a potential public health event. This enables objective evidence-based decisions while giving consideration to the uncertainties and limitations of the information available at a particular point in time. It involves understanding the identity and character of a hazard and evaluating the risk of an adverse outcome in a population following exposure to that hazard. The process can also assess the risk associated with potential intervention measures. During an event, risk assessment is an ongoing process, not a one-time activity.
Zoonoses	Any disease or infection that is naturally transmissible from vertebrate animals to humans or vice versa.

ANNEX 3: Important Reference Documents

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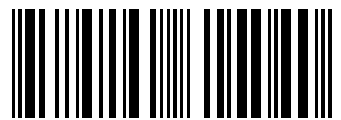
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