

Second Meeting of the Asia-Pacific Technical Advisory Group on Emerging Infectious Diseases

Report of the Bi-regional Meeting
SEARO, New Delhi, 18–19 July 2007



**World Health
Organization**

Regional Office for South-East Asia

SEA-CD-169
Distribution: Limited

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New Delhi, November 2007

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Acronyms used

ADB	Asian Development Bank
AI	avian influenza
AIDS	Acquired Immunodeficiency Syndrome
APHO	Airport Health Organization
APSED	Asia-Pacific Strategy for Emerging Diseases
ASEAN	Association of South-East Asian Nations
AusAID	Australian Agency for International Development
BSL	biosafety level
CAREID	Canada Asia Regional Emerging Infectious Diseases Project
CDC	Centres for Disease Control
CIDA	Canadian International Development Agency
CSR	Communicable Diseases Surveillance and Response
DCC	Combating Communicable Diseases
EIDs	emerging infectious diseases
EQA	External Quality Assurance
EU	European Union
EWARS	Early Warning and Reporting System
FAO	Food and Agriculture Organization of the United Nations
FETP	Field Epidemiology Training Programme
GLEWS	Global Early Warning System
GOARN	Global Outbreak Alert and Response Network
HIV	human immunodeficiency virus
HPAI	Highly Pathogenic Avian Influenza

HQ	Headquarters
IAEA	International Atomic Energy Agency
ICAO	International Civil Aviation Organization
IEC	Information Education and Communication
IHR	International Health Regulations
ILI	influenza-like illness
IOM	International Organization for Migration
JICA	Japan International Cooperation Agency
MBDS	Mekong Basin Disease Surveillance
MDR	multi-drug resistance
MoA	Ministry of Agriculture
MoH	Ministry of Health
NFPs	(IHR) National Focal Points
NIC	National Influenza Centre
NICD	National Institute of Communicable Diseases
NIID	National Institute for Infectious Disease
NIHRD	National Institute of Health Research and Development
NGO	Nongovernmental organization
OIE	Office Internationale des Epizooties
PHEIC	public health emergency of international concern
PI	pandemic influenza
PHO	Port Health Organization
PoE	Points of entry
PPE	Personal Protective Equipment
QA	quality assurance
QC	quality control
RCM	Regional Committee Meeting
RO	Regional Office

RRT	Rapid Response Team
SARS	Severe Acute Respiratory Syndrome
SEARO	WHO Regional Office for South-East Asia
SOP	Standard Operating Procedure
TAG	Technical Advisory Group
TB	tuberculosis
UN	United Nations
UNICEF	United Nations Children's Fund
US	United States
USAID	United States Agency for International Development
UNSC	United Nations System Influenza Coordination
WHO	World Health Organization
WPRO	WHO Regional Office for the Western Pacific
XDR-TB	extensively drug-resistant tuberculosis

Executive summary

The Asia-Pacific Strategy for Emerging Diseases (APSED) has bi-regional endorsement as the strategic document to guide countries of the Asia-Pacific Region and regional partners in implementing the core capacity requirements of the International Health Regulations (2005) as they relate to communicable disease prevention and control. The purpose of the second meeting of the WHO Technical Advisory Group (TAG) on Emerging Infectious Diseases (EIDs) was to assess the existing alert and response capacity in the Asia-Pacific Region, review the progress since the first TAG Meeting and identify priorities and make recommendations on future steps for APSED and International Health Regulations (IHR) (2005) implementation.

The Second TAG Meeting was held in New Delhi from 18-19 July 2007, and was attended by TAG members, temporary Advisers and WHO officials. Pandemic preparedness, IHR and APSED workplan implementation and the progress made towards implementation of recommendations of the first TAG Meeting were discussed in detail. The prevailing EID situation was reviewed and public health issues of critical importance were discussed. In addition, best practices and new thoughts on public health interventions were shared during the meeting.

The APSED and the IHR (2005) are synergistic in their aims and implementation strategies. The IHR (2005) came into force on 15 June 2007. It sets timelines for the development of core capacities in Member States. The main challenges in its implementation include strengthening core capacities within countries; mobilisation of resources and national political commitment to rapidly share information and materials and inter-country collaboration. The document emphasized that international public health security can only be ensured in tandem with national public health security. Strengthening of laboratory services is essential for generating evidence-based information. Improvement of biosafety standards and certification/accreditation of laboratories at the country level needs special attention. The complex issue of port health should be given a priority with multisectoral approach.

Pandemic influenza planning also remains a priority area for the Asia-Pacific Region. All states of the region have developed a pandemic influenza strategic plan

but few have a fully operational workplan. Non-health sectors are not completely engaged in pandemic planning in most countries. More work needs to be done to reach the minimum and essential requirements that cover all three aspects of the AI intervention: averting avian influenza, rapid containment, and pandemic response.

Considerable progress has been made since the First TAG Meeting in all priority programme areas except infection control. TAG members felt the need for more synergistic action between the WHO Regional Offices for South-East Asia and the Western Pacific for APSED implementation and progress monitoring. There is a need to develop indicators to measure progress in real terms.

The TAG made a number of both general and specific recommendations on the following three substantial areas of work: avian influenza and pandemic influenza; implementation of the WHO APSED workplan, including five programme areas of work; and compliance with the IHR (2005).

Session I: Inaugural session

Opening remarks

Dr Poonam Khetrpal Singh, Deputy Regional Director, WHO Regional Office for South-East Asia (SEA), welcomed participants on behalf of Dr Samlee Plianbangchang, Regional Director of the WHO SEA Region, to the second Technical Advisory Group Meeting for Emerging Infectious Diseases (EIDs) saying she anticipated important outcomes.

Dr Singh outlined a summary of the infectious diseases that had emerged in the Asia-Pacific Region over the last two decades — including SARS, highly pathogenic avian influenza A/H5N1 and Nipah virus — all of which have clearly demonstrated the vulnerability of countries to emerging and re-emerging infectious diseases. Two vector-borne diseases, dengue and chikungunya, have not only emerged as important causes of morbidity but also expanded their geographical range; dengue is now endemic in most countries of the Asia-Pacific. Despite the availability of effective tools to control dengue fever, efforts are constrained by a lack of sustained political commitment, inadequate resources and certain social factors. Effective vector-borne disease control requires the adoption of a regional approach through collaboration.

Countries of the Asia-Pacific Region continue to carry much of the burden of the avian influenza (AI) epizootic as well as human cases of A/H5N1 infection. Given the close animal-human interface in most countries of the Asia-Pacific Region, an influenza pandemic is a significant potential threat. Given the high case fatality rates due to AI and the continuous transmission of infection through exposure to infected poultry, further research may ascertain the factors responsible for selective transmission and high case fatality rates. Sharing influenza viruses, equitable access to A/H5N1 and pandemic vaccines, and other benefits were major issues discussed at the Sixtieth World Health Assembly in 2007. WHO is providing technical and financial support to four vaccine manufacturers in the Asia-Pacific Region to strengthen production capacity and transfer appropriate technology through international partnership.

In order to ensure a consistent approach throughout the Asia-Pacific Region, the *Asia-Pacific Strategy for Emerging Diseases (APSED)* is being used as a framework

to build the national capacities required for effective prevention, detection and control of EIDs in the two WHO Regions. Effective implementation of the Strategy to achieve the objectives of the APSED as well as meeting the core capacity requirements of the International Health Regulations (2005) demands that adequate human and financial resources and international partnerships are made available at both country and regional levels. Applied public health research is also needed to further characterize infectious agent such as Nipah virus and formulation of strategies for control at source.

Steady progress has been made in most priority programmes within the APSED framework, including assessment of country capacities in several countries and involvement in exercises to test country implementation plans.

Accordingly, the overall objectives of the Second Emerging Infectious Diseases TAG Meeting are to review strategies to strengthen the surveillance of, and response to, emerging infectious diseases in the Asia-Pacific Region and ensure the implementation of country capacity strengthening activities in accordance with IHR (2005) to protect and promote international public health security.

Prof. N.K. Ganguly, Director-General, Indian Council of Medical Research, presented the introductory remarks on behalf of the TAG. The Asia-Pacific Region has been the source of many emerging diseases as a result of animal-human interface, large urban populations of high density, vectors of disease transmission and poor public health infrastructure in some countries of the region. Sharing of information and resources, and skills transfer, are important steps in the protection of public health in developing countries. Laboratory capacity is being developed in several countries, some with the resources to provide bilateral and regional support through WHO Regional Offices. Prof. Ganguly provided several examples (cases of dengue virus, Nipah virus and drug resistant tuberculosis) of collaborative applied research among epidemiologists, diagnostic and research laboratories, vaccine and drug developers and clinicians that have resulted in the successful investigation of important emerging diseases and planned technology transfer such as with vaccine manufacture.

Dato Dr Tee Ah Sian, Director, Combating Communicable Diseases, WHO Western Pacific Region, thanked the Regional Director of the SEA Region and his team for organizing the Meeting, TAG members for their inputs over the last 12 months, and colleagues in WHO Headquarters for their collaboration. The WHO Regional Office for the Western Pacific (WPRO) APSED has been implementing the WHO workplan to support countries in strengthening their core capacities in the Western Pacific Region. Dr Tee reminded everyone of the regional capacity

development goal that was endorsed by the first TAG Meeting, that "all countries and areas of the Asia-Pacific Region will have the minimum capacity for epidemic alert and response by 2010. The Western Pacific Region has set the target of all Member countries having in place all IHR (2005) core capacities by 2010. Country assessments and the development of country workplans are critical activities. TAG members were tasked with making recommendations on how to best implement these activities and other priorities under the five priority areas (surveillance and response, laboratory strengthening, emerging zoonoses, infection control and risk communication) in order to accelerate APSED implementation. Pandemic influenza planning still remains a priority area for the Asia-Pacific Region. There is now the need to determine whether countries have the ability to implement their pandemic plans and the level of multisectoral and multi-level engagement, including local government authorities. A Western-Pacific Regional meeting will be taking place among EID Programme Managers and IHR National Focal Points (NFPs) on 20-21 July 2007 to discuss the implementation of the TAG recommendations and further advance APSED implementation.

Background and objectives of the meeting

Dr Limpakarnjanarat, Regional Adviser, Communicable Diseases Surveillance and Response, SEARO, introduced the TAG members, Temporary Advisers, senior management staff from WHO/SEARO and members of the Secretariat from WHO/HQ, WPRO and SEARO who attended the meeting. The TAG for Emerging Infectious Diseases was established to guide and advise WHO and Member States of the Asia-Pacific Region in order to implement APSED effectively.

Dr Limpakarnjanarat outlined the objectives of the meeting, which were to:

- Review the existing alert and response capacity for EIDs in the Asia-Pacific.
- Review progress made since the First TAG Meeting in July 2006
- Identify priorities and make recommendations on future steps for APSED implementation.

The Programme schedule of the Second TAG meeting is presented in Annex 1.

Session II: Updated issues

The session provided situation updates on the impact of EIDs globally and in the Asia-Pacific to provide the meeting participants with the corpus of information for discussion of capacities needed to meet such threats.

Emerging infectious diseases situation in Asia and the Pacific

Dr Jai P. Narain, Director, Communicable Disease Surveillance, WHO/SEARO

Dr Narain provided an overview of the emerging infectious diseases in the South-East Asia Region and gave a historical perspective of the determinants of poor health in all countries of the WHO, SEA Region including poverty and inequity of access to health care and new technologies. Globalisation, population growth, urbanization, international travel, global warming and poor health-care infrastructure also influence disease emergence, he said.

Dr Narain also outlined some important diseases that have emerged globally since the late 20th century. Infectious diseases reveal weaknesses in public health infrastructure and the need for regional and global collaboration. HIV/AIDS was first recognized in 1981 in the United States and there is still no vaccine or curative therapy for it. South-East Asia is the second most affected region after Africa – HIV/AIDS has massive health, socio-economic and security implications and threatens development and social stability. SARS almost stopped international travel to the Asia-Pacific for some time and had a significant, albeit short, impact on Asian economies. It is also an unprecedented example of the success of public health and global collaboration to control an infectious disease.

The HPAI A/H5N1 virus is enzootic in many countries of the Asia-Pacific Region and human cases are likely to continue. The state of development of Veterinary public health is poor in most countries with a conspicuous need for improved collaboration among animal doctors and health professionals. Human and financial resources are a constraint in the battle against AI and in preparing effectively for pandemic influenza. The epidemiology of XDR-TB in the Region is poorly defined but given the high burden of tuberculosis, surveys are urgently required to determine the extent of MDR- and XDR-TB and their financial and material resource implications.

The Nipah virus outbreak in Bangladesh in January-February 2007 highlights the importance of cross-border and inter-regional collaboration. The sharing of

expertise enables learning from other programmes about how best to facilitate cross-border collaboration.

International health security can only be ensured in tandem with national health security. The spread of dengue and chikungunya is an example of the relative ease with which vector-borne diseases spread in the absence of effective vector control programmes.

APSED assumes critical importance as a framework to develop and strengthen national capacities in disease surveillance and control and bolster collaboration among countries, regions and the global network for greater international health security.

The main challenges in implementation include technical strengthening of core capacities within countries, mobilization of resources and national political commitment to rapidly share information and material, and political support for inter-country collaboration. APSED and the IHR (2005) are synergistic frameworks that offer opportunities to build on existing infrastructure (surveillance and response, laboratory strengthening, emerging zoonoses, infection control and risk communication) and to form viable partnerships.

Threats of new infectious diseases will continue. The challenge is how to develop a sustainable national and regional/global capacity to rapidly detect public health events and respond effectively. Critical needs include long-term commitment on allocation of new resources, better and more innovative partnerships with the public and private sectors and the effective implantation of APSED and IHR (2005).

In conclusion, Dr Narain stressed the four “Cs” for implementation – core capacity strengthening, communication and connectivity, collective response, and the commitment by countries to share and collaborate.

Global progress in IHR (2005) implementation

*Dr Max Hardiman, Coordinator, IHR Secretariat,
WHO Headquarters, Geneva*

The IHR (2005) builds on existing national and regional disease control strategies by providing a legal framework. The IHR revision exercise was in response to acute public health challenges that were not covered by existing Regulations. The IHR

(2005) comprise only the legal aspect of international public health security; strategies such as APSED are essential for total implementation of the Regulations. The IHR (2005) came into force for most states that are parties to it on 15 June 2007 with reservations expressed by a small number of countries.

The IHR (2005) is a paradigm shift from controlling infection at the borders to containment at source (prevention), from disease lists to all public health threats (acute events that threaten to spread across borders) and from preset measures to tailored responses (responses tailored to context).

Dr Hardiman presented the “lighthouse analogy” of IHR (2005) as a global public good based on global partnerships. Implementation components are international travel and transportation, national surveillance and response, the WHO global alert and response system, threat-specific control programmes such as meningitis, cholera, etc, as well as legal procedures and monitoring. IHR provides an international legal framework and a legal obligation to meet certain standards of capacity and ensure consistency in practices. It builds on existing strategies, infrastructure, systems and processes and planning for its implementation requires a gap analysis of national capacities against the agreed IHR (2005) core capacities for international public health security.

The IHR Implementation Plan identifies seven key areas. These are:

- (1) Fostering global partnerships
 - within the UN system (e.g. Food and Agriculture Organization (FAO), International Atomic Energy Agency (IAEA), International Civil Aviation Organization (ICAO), International Organization for Migration) (IOM)
 - with other regional organisations (e.g. European Union (EU), Association of South-East Asian Nations (ASEAN) and technical partner (e.g. Office Internationale des Epizooties (OIE))
 - with the nongovernmental and private sectors
 - through advocacy via the development of information packages, training courses and awareness building meetings, and the WHO IHR Resource Centre and IHR e-learning for WHO Country Offices.

(2) Strengthening national capacity

- The IHR (2005) include a timeframe for implementation of core capacities in disease surveillance, prevention control and response systems and public health security in travel and transport. The optimum timeline for IHR implementation is 2012, i.e. up to five years after the Regulations entered into force.
- States which are parties to the IHR (2005) have committed to mobilize resources and develop national action plans. WHO Headquarters is developing a set of guidance to describe minimum and desirable system components and protocols for assessment of existing capacity and planning processes to fill gaps in core capacities in accordance with Annex 1A. This guidance can be found at the WHO web-based IHR Resource Centre. WHO will also continue to provide in-country support as required, including in the field of joint development of national plans, joint country capacity assessments, laboratory external quality assurance (EQA) programmes and laboratory twinning arrangements.

(3) Ports of entry (PoE)

- Strengthening public health security in travel and trade at designated points of entry both for routine maintenance of safe and sanitary environments for travellers and for responding to emergencies.
- New certificates for ship sanitation, vector control, and sanitation of aircraft and vaccination with guidance to their use.

(4) Prevention and response to international public health emergencies

- WHO responsibilities are to strengthen the WHO global alert and response system (e.g. the Global Outbreak Alert and Response Network [GOARN]) and threat-specific alert and control programmes. As over 95% of day-to-day threats under the IHR (2005) are already covered by threat-specific programmes, IHR NFPs must collaborate closely with such programmes.
- Designation of IHR NFPs: a “centre” with a named responsible person, accessible 24/7 for communications with WHO (notification, verification, reporting, consultation, provision for information) at all times. Written government communication is

required for designation of an NFP. The NFPs also have a role in communicating public health risks nationally to all relevant sectors of the administration of the Party (threat-specific programmes) and to consolidate all relevant information for action. Additional functions may include risk assessment (national or in collaboration with WHO); coordinating international emergency assistance; IHR communications unrelated to public health events; and advocacy for, and monitoring of, national IHR implementation.

- Each WHO Regional Office has established an IHR Contact Point for 24/7 contact with Parties. The IHR (2005) makes no specific mention of WHO Country Offices, but it is implied that the IHR NFP works closely with the WHO Country Office or Liaison Office.
 - IHR Contact Points, the WHO/HQ Alert and Response Operations Unit, Epidemic and Pandemic Alert and Response, and the IHR Secretariat need to maintain close collaboration with threat-specific programmes for event alert, risk assessment and response (e.g. the Stop TB Programme, the Global Polio Eradication Programme, food safety, chemical safety, programmes for vaccine preventable diseases, radiation health and HIV/AIDS etc).
- (5) Provision of providing information by WHO to Parties
- WHO has an obligation to provide event related information under Article 11 of the IHR and an IHR Event Information Site, with restricted access to IHR NFPs and WHO, has been developed for that purpose. Information is also available via an IHR NFP web portal.
 - Of 83% Parties which have nominated an NFP, only 25% are fully functional. Fifty-two Parties have nominated an expert for emergency committees in accordance with Article 47.
 - Select challenges in the implementation of the IHR were identified as: technical issues regarding ports of entry, especially ground crossings; developing valid indicators of national capacity; intersectoral nature of the IHR; and resource needs (human resources and their development, the overall cost of IHR implementation and funding mechanisms). Work is being undertaken by the IHR Secretariat and partners to address these issues.

TAG discussion for Session II

Prof Ganguly raised the issue of the importance of identifying regional capacities to assist the diagnosis of high-priority emerging diseases such as extensively drug resistant tuberculosis (XDR-TB). Past experience with SARS outbreaks revealed that it is not possible to delay public health action while gathering all the desired information because of the need for quick response. Sharing of specimens and reagents requires further clarification. Dr Hardiman agreed that laboratory capacity needs strengthening in a number of countries and for various diseases. Dr Chu stressed that WHO/HQ is working with counterparts in Regional Offices to identify laboratory needs and to establish and strengthen laboratory networks for providing better and more efficient diagnostic services and sharing reagents.

Prof Ganguly also noted that there are specific issues in IHR implementation for large countries, especially those governed as federations where public health responsibilities are shared between sub-national and national governments and/or where responsibility for health security is devolved to the local level. Dr Hardiman noted though that the United States of America had issued a reservation with respect to federalism in the context of national capacities but there was no indication that notification or reporting is impeded by federalism. No other federation saw a need to make such a reservation. The IHR (2005) does not refer to the spread of infectious diseases within a country, except through the risk of international spread of the same.

Prof Nicoll enquired about the role of regional organizations in epidemic alert and response and the use of the Annex 2 algorithm. NFPs should be initiating contact with WHO, but currently verification is still largely being initiated by WHO on the basis of its risk assessment. Requests for verification and risk assessment are being increasingly initiated by the Regional Offices (RO). The role of ROs in verification of public health emergencies of international concern has been tested through a simulation exercise.

Dr Tangcharoensathien highlighted the vulnerabilities at the border areas where public health infrastructure is weak; the role of the private sector in disease control and failure of health systems to comply with the infection control requirements of dangerous pathogens such as XDR-TB. There is a need to translate the IHR (2005) as a legal document into country-adapted standard operating procedures (SOP) on the implementation of the IHR.

Dr Jai P. Narain noted that the variability of existing capacity among countries highlights the importance of country gap assessments. The strengths of the private

sector for development of technology – new drugs, vaccines and diagnostics – also need to be fully exploited.

Dr Yusharmen raised the importance of early intervention to contain and control risk factors for emerging diseases and the need to capture risk factor information as part of surveillance activities. Experience in Indonesia is that field responses can be complicated by differences in policy and procedures among UN and other international agencies and highlighted the need for WHO to strengthen its collaboration with key agencies such as FAO and OIE at the field level. Perspectives on the various agencies involved at the points of entry (PoE) are being sought by a multisectoral committee established to advance a common understanding of the requirements of IHR implementation. The IHR contains no description of core capacities at the international level. However, all WHO obligations have been reviewed to ensure that they are met.

Prof Ganguly spoke of the importance of health information systems and access to non-traditional information sources, e.g. mapping risk factors at the animal-human interface. Critical data may be held by agencies that health authorities do not normally see as natural partners.

Dr Chu informed the participants about the activities being undertaken by WHO and ICAO to harmonize international standards, e.g. UN Transportation Guidelines, so that a standardized approach to training for the safe packaging and transport of infectious specimens can be provided to all Member States. WHO is also working with international partners on harmonizing biosafety programmes to reach an overall level of consensus on minimal standards for laboratory biosafety.

Status of IHR (2005) implementation in Asia and the Pacific

WPRO Progress report presented by Dr Li Ailan, Communicable Diseases Surveillance and Response, WHO Regional Office for Western Pacific

Dr Li provided an overview of the Western Pacific Regional strategic approach towards compliance with the IHR (2005). Four key actions have been identified in the regional approach. These include (1) strengthening communications and operational links between National IHR Focal Points (NFPs) and the WHO IHR Contact Point through improved information sharing; (2) strengthening and sustaining the country core capacities for surveillance and response through effective implementation of APSED; (3) strengthening public health measures and capacities at international points of entry, and (4) improving national legislative support.

Key activities implemented over the last 12 months include:

(1) Advocacy and improving understanding about the IHR (2005)

The Region has developed and disseminated some advocacy materials, including the IHR booklet and IHR poster for the Western Pacific Region. The website of the Regional Office has a specific IHR webpage for providing relevant information.

Ten Member States, with the support of WHO, have conducted their national-level workshops/meetings on the IHR (2005).

(2) Strengthening communications and operational links between NFPs and WHO

All Member States have now officially designated their NFP. However, recent communications between WHO and the NFPs revealed that not all NFPs were ready to perform the mandatory functions. WPRO has now established its IHR Communications and Duty Officer System. An interim protocol on the system has been developed and is currently being used to guide necessary actions to be taken by duty officers.

(3) Implementing APSED to meet the IHR capacity requirements.

Six countries have conducted an assessment of their existing surveillance and response systems and capacities, using the APSED checklists. As a result of such assessments, Lao PDR and the Philippines have prepared their draft national action plans.

(4) Strengthening public health measures and capacity at designated points of entry.

WPRO's assistance to countries in strengthening this area of work was limited over the past year. In 2007, WPRO worked with the Philippines to develop draft checklists for the core capacity at designated international points of entry.

(5) Strengthening national legislative support.

The People's Republic of China, the Republic of Fiji and the Kingdom of Tonga have started reviewing and adjusting their existing laws or public health Acts to support IHR compliance. In February 2007 WHO supported a workshop on public health laws for the Pacific Island countries in which the IHR (2005) was a main agenda item to drive countries to strengthen their domestic legislation.

SEARO progress report presented by Dr Harry Caussy, Communicable Diseases Surveillance and Response, WHO/SEARO

Dr Harry Caussy pointed out that the large number of borders shared within the Asia-Pacific Region facilitated the spread of infectious diseases. The IHR (2005) is based on collective responsibility for international public health security. The core capacities for the IHR at each administrative level of public health response – local, intermediate, national, regional and international levels – have been identified in the IHR. The Regional Office had developed a questionnaire for country assessment and the findings of country assessments were reported at the regional consultation in Malè in 2007. Five countries met most of the criteria. Countries will be supported by a number of tools and guidelines (case management, early warning and reporting system (EWARS), etc). Short-term field epidemiology training programme (FETP) is due to start in September 2007. Designation of A/H5 and EID reference laboratories, development of a database of rapid response teams and IHR NFPs, the establishment of a Strategic Health Operations Centre, and stockpiling for personal protective equipment (PPE), antiviral agents and other disease control materials have been initiated. A number of advocacy materials were prepared and disseminated for the launch of the IHR (2005).

The following issues and needs have been identified in the SEA Region based on the recent experience with AI:

- There is an urgent need to build national capacities in epidemic alert and response, including cross-border and inter-country surveillance and response activities.
- Priority should be given to enhancing collaboration between animal and human health surveillance and for the timely sharing of information across sectors.
- Strengthening collaboration between local public health and animal health partners, countries and international partners, and of other UN and international agencies.
- Resource mobilization and sustained high-level political commitment by the Parties.
- Engaging the non-governmental and private sectors more fully in the IHR process.

Session III: Asia-Pacific Strategy for Emerging Diseases (APSED)

The session provided an overview of the progress made in the last 12 months in the Western Pacific and South-East Asia Regions towards the development and implementation of pandemic preparedness plans. The strengths observed and lessons learnt were discussed.

The expected outcomes of this session included increased awareness and understanding of the new obligations under the IHR (2005) and its relationship to APSED, and the actions to be taken by countries to implement the core capacities for communicable disease surveillance and response described in both.

Pandemic preparedness in the Asia-Pacific Region

Progress report WPRO presented by Dr Bee Lee Ong, Communicable Diseases Surveillance and Response, WHO/WPRO

A phase-wise intervention is being adopted by the Western Pacific Region to divide pandemic planning into three phases – averting avian influenza, rapid containment and pandemic response. The pandemic response requires a multisectoral approach featuring medical interventions, non-medical interventions and business continuity planning as part of social response. Pandemic preparedness requires a two-tiered approach of pandemic plan development and increasing readiness through actions specific for emergencies and by bolstering routine activities.

All Parties belonging to the Western Pacific Region have developed a pandemic influenza strategic plan but few have a fully operational workplan. Several countries have conducted pandemic exercises.

Rapid containment is defined as the attempt to stop or delay the emergence of a novel human-adapted influenza strain with the potential to cause a pandemic. This approach requires functional routine early warning and response systems and threat-specific activities. Completed regional activities include the establishment of a stockpile and an MoU for stockpile release. WHO has advised countries to use an “all-hazards” approach to pandemic planning so that the capacities and infrastructure developed is readily adaptable to other emerging diseases and public health emergencies. Pandemic planning should incorporate pharmaceutical and non-pharmaceutical approaches. All plans need to be tested through exercises, and

preparedness activities need to be readied down to the local government level. Developing response plans aim to create a culture of emergency preparedness.

Increasing readiness to effectively implement plans in crises requires existing public health infrastructure and the ability to complete essential public health activities for pandemic preparedness and response. A survey of nine countries has revealed there were low rates of completion of essential activities for rapid containment and pandemic response.

Despite limitations, the survey provided information on general trends that indicate that the Western Pacific Region is not fully equipped to tackle pandemic influenza at every level. However, there has been considerable improvement in pandemic preparedness levels in the Region. More works need to be done to reach the minimum and essential requirements to cover all three phases of the intervention.

*SEARO Progress report presented by Dr Maureen Birmingham,
Communicable Diseases Surveillance and Response, WHO/SEARO*

Dr Birmingham described WHO's five recommended strategic actions to confront avian influenza and the pandemic threat, and elaborate the progress, challenges and plans regarding four of these.

Action 1 involves reducing human exposure to A/H5N1. Health promotion material has been developed by WHO and it has also provided technical support to several partners such as UNICEF in reviewing their communication resources. The material was developed using a community participatory approach and were based on the four key behaviours agreed upon by FAO, UNICEF, and WHO. WHO/SEARO hosted a risk communication workshop inviting professionals from FAO, UNICEF, MoHs and MoAs. WHO is partnering with USAID to stockpile PPE, while the US-CDC has funded the SEA Regional Office to develop a stockpile management system in Bangkok. Though training in PPE is underway, much more is needed to be done. The next step for this activity is to ensure that such measures effectively reach the grassroots and independent evaluation is made to assess their effectiveness in changing behaviour patterns. Further work is also needed in assisting countries to set up their stockpiles including good inventory management and distribution systems as well as training in PPE use.

Action 2 deals with strengthening early warning systems. Links are being formed at regional and national levels between human and animal health sectors so

that an outbreak of a potentially zoonotic disease in animals can serve as an early warning for public health. Influenza-like illness (ILI) surveillance has been established in some countries to understand seasonal influenza epidemiology. AI affected countries have incorporated case/cluster investigation of suspect AI as part of their national systems. Strengthening of the laboratory system is underway. This includes the provision of reagents, training on sampling and specimen dispatch to the laboratories, training of technicians to process specimens, and the fostering of bilateral support between laboratories. Challenges include overcoming the barriers to reporting animal outbreaks due to economic effects on local farmers and on travel/trade; poor public health and veterinary infrastructure in high-risk areas; and balancing increased sensitivity of surveillance systems for avian/pandemic influenza with increased costs. The next steps include enhancing and formalising links with the animal sector for early warning; formalizing linkages with Global Early Warning System (GLEWS); finalizing the regional Early Warning and Reporting System (EWARS) guidelines; providing technical assistance to countries as needed in establishing or strengthening EWARS, and continued efforts to strengthen surveillance and monitor its performance. Plans for the laboratory include developing a regional network plan, writing SOPs for processing AI specimens, establishing a QA/QC programme, and designation of influenza A/H5 reference laboratories in the Region.

Action 3 is to intensify rapid containment operations. Courses on “Rapid response team (RRT) training of trainers” were held for all countries in the Region in Bangkok in July 2006 and in New Delhi in March 2007, followed by technical assistance to some countries to help adapt the RRT materials and “roll-out” the training to sub-national levels. An evaluation tool was developed to assess output and outcome of the training. An inter-country workshop on rapid containment was held in Jakarta in November 2006. In addition, inter-country clinical management training was held in Bangkok, Bhutan and Bangladesh for clinicians. Lessons learnt include the need for high-level commitment to roll out RRT training, the need to invest in adapting resource material to the local context and use local case studies, the advantages of including both the animal and human health sector in the same workshop, and the importance of training the teams as multi-purpose rapid responders. The next steps are to support countries in the continued roll-out of RRT training to sub-national levels and operational planning for rapid containment. The evaluation tool should now be used for self assessment or for use by external evaluators (according to country preference) to help guide the next steps in achieving the goal of having trained and fully functional first responders at the appropriate sub-national level.

Action 4 involves building capacity to cope with pandemic influenza. A conference of ministers of health and agriculture was held in July 2006 to build political support at the highest level to control avian influenza and confront the pandemic threat, leading to a 'Delhi Declaration'. Technical assistance was provided to countries to develop pandemic preparedness plans and support table-top exercises. Efforts are on to establish a regional stockpile of needed commodities. Guidance was developed through an informal meeting between WHO and UNICEF on key behaviours to promote during a pandemic. Countries of the SEA Region are actively engaged in the *Global Pandemic Influenza Vaccine Action Plan* and are receiving support to expand/develop their seasonal influenza vaccine production and raise capacity for pandemic vaccine production. SEARO has been involved over the past year in making comprehensive assessments of national preparedness plans. These assessments have revealed the need to move from planning for and managing single, sporadic cases of A/H5N1 infections to more comprehensive pandemic preparedness which would involve mass casualty planning in hospitals. The assessments and an UNSIC survey have also revealed that the non-health sector is not fully engaged in the details of pandemic planning in most countries. The assessments also identified a need to strengthen hospital preparedness, risk communication and overall *operational* planning. The next steps include involving sub-national government authorities in multisectoral pandemic planning.

TAG discussion for pandemic preparedness

Dr Oshitani noted that the efficacy of non-pharmaceutical interventions proposed during a pandemic and its rapid containment have not been evaluated and should be the subject of applied research. Dr Tangcharoensathien identified the need for harmonization of APSED and pandemic planning from managing of sporadic cases to the mass casualty approach. Dr Xiao stressed the importance of monitoring and evaluation of pandemic preparedness plans to assess real progress.

Prof Nicoll made observations about the lessons learnt from European pandemic preparedness planning, which include that hospital emergency preparedness and surge capacities were significant challenges for all countries. He highlighted the similarity of problems in Europe and Asia in terms of pandemic preparedness. Future planning for pandemic influenza would benefit from separating the zoonotic response to averting AI from the prevention and control of human-to-human transmission of a novel influenza strain during rapid containment and response as they involve different risk factors and different alert and response constituencies, he observed. He recommended a meeting of pandemic preparedness project managers to review and update the 2005 WHO Pandemic

Influenza Checklist since it was insufficient to the needs of the non-health response sectors. He also noted that although pandemic planning must consider the worst-case scenario, experience has shown that some pandemics are relatively mild response planning should consider such contingencies to ensure commensurate response. Dr Hall commented that "flu fatigue" was settling in and there was a need for strategies to maintain commitment and momentum to pandemic planning. Dr Birmingham stressed the need for using APSED and IHR to address the issue of "flu fatigue" as they are powerful tools to advocate for general core capacity building to confront any emerging diseases, including a novel strain of influenza.

Dr Lim noted recent reports of emerging resistance to oseltamivir in some A/H5N1 strains and suggested that evidence of emerging resistance to oseltamivir should be worked into decisions about antiviral stockpile composition. Dr Okabe informed the meeting that Japan consumes up to 70% of oseltamivir presently and is monitoring adverse events. An expert committee has been established to investigate recent suicides and neuropsychiatric symptoms in Japanese adolescents associated with the administration of oseltamivir. The policy of the Japanese government towards stockpiling is unchanged but there may be a need to alter this and practice around the use of oseltamivir for seasonal influenza in young people if evidence of a causal link of adverse events to oseltamivir consumption is established.

Citing past experiences, Dr Shiv Lal stressed the importance of media management in communicating outbreaks, and the need for community-wide health promotion/risk communication.

Dr Kasai pointed out that the survey results from the Western Pacific Region showed that most preparedness activities have been focused on AI; much less has been completed with respect to rapid containment and pandemic. Therefore, two-tier approaches have been proposed. The APSED workplan provides the best opportunities to develop a synergistic approach for pandemic preparedness between SEA and Western Pacific Regions.

Overall progress in APSED implementation

WPRO progress report presented by Dr Takeshi Kasai, Communicable Diseases Surveillance and Response, WHO/WPRO

Dr Kasai gave a short overview of the Strategy and the APSED workplan as the implementation plan of the IHR (2005) core capacity requirements for infectious diseases, and the accelerated activities for avian and pandemic influenza. The

structure of the workplan reflects the five priority areas. Urgent implementation of activities to avert AI and prepare for pandemic influenza has been the focus of 2006-07. The workplan includes specific activities for the rapid containment of human-adapted novel influenza strains. Each of the five areas of work follows a stepwise approach. Steps 1-2 focus on early warning and response systems for avian and pandemic influenza. Steps 3-5 focus on the establishment of event-based systems, response capacities such as field epidemiology and outbreak response training, indicator-based (case-based) surveillance systems and laboratory surveillance systems, ideally to be in place by 2010.

The workplan includes monitoring and evaluation indicators for each of the five work areas, with the TAG for EIDs contributing to overall monitoring and evaluation.

Advocacy activities to increase political support for APSED have included a number of high-level meetings, working with donors and assessment missions. WPRO has also conducted the PanStop 2007 pandemic exercise.

Dr Kasai presented highlights of progress made towards implementing activities in each of the five work areas. Progress has been made in all areas other than risk communication and infection control due to human resource constraints.

Strengthening of the regional outbreak alert and response systems and operational capacity has been taking place under the following headings:

- CSR internal capacity building.
- External networks (GOARN mechanism).
- Logistics systems.
- Outbreak response protocols and exercises.
- CSR IHR 24/7 communications protocol (Duty Officer system in place in both regional offices).

APSED Baseline Checklist presented by Ms Amy Cawthorne, Communicable Disease Surveillance and Response, WHO/ WPRO

The APSED Baseline Checklist was developed as a self-assessment tool by the TAG surveillance and response working group convened in September 2006. The Checklist covers event-based surveillance, indicator (case)-based surveillance and

supporting activities for surveillance and response systems. Six countries of the Western Pacific Region have carried out the assessment and made comments on the utility of its use. The need for countrywide coverage of the activities of surveillance systems and their linkage back to response was a common theme identified by all respondents. Key development areas are human resource development planning at the national and sub-national levels and the review of national legislation and policy to ensure adequate support for surveillance and response.

Participation in internal and EQA systems, development of biosafety programmes and training in quality assurance and biosafety are key development areas for laboratory strengthening. Countries noted that there was little linkage between epidemiological surveillance and laboratory surveillance at this time.

The emerging zoonoses programme of work aims to develop protocols for information sharing between the animal and human health sectors beyond AI, establishing multisectoral committees and formalising mechanisms for cross-sectoral collaboration. Applied research in emerging zoonoses is required to inform policy development in disease prevention and control.

In many countries, there was no appropriate national policy and responsible institution for infection control at the national level. A human resource development plan with assessment of training and surge capacity needs should be built into existing health-care workers' training.

Implementing activities in the risk communication area of work has been problematic for reasons including confusion about risk communication terminology and concepts by risk communicators within countries. There is a lack of coordination among sources of information and their messaging that requires clarification of roles and responsibilities, e.g. among various UN agencies that provide support to risk communication. There is a need for training, assessment and planning, tools, models of effective risk communication and risk communication implementation strategies.

SEARO Progress Report presented by Dr Ayana Yeneabat, Communicable Diseases Surveillance and Response, WHO/SEARO

APSED underscores the need for a stepwise approach to implementation. Several high-level meetings have been held in the last 12 months where the IHR (2005) and APSED were discussed. At least nine countries conducted IHR launch programme that included advocacy materials, workshops and press releases.

All 11 Parties from the SEA Region have designated IHR NFPs. The Regional Office has worked with nine countries of the Region to assess IHR core capacities.

Rapid response and table-top exercises was the subject of joint WHO/CDC training modules at Bangkok and New Delhi.

Short course epidemiology training is being initiated at NICD to help build basic epidemiology capacity in countries, particularly those with no FETP. This training will be competency-based and compatible with the core requirements in outbreak response under the IHR (2005). A course in tropical diseases will be launched soon at the Mahidol University, Thailand, and the National Institute for Communicable Diseases, New Delhi.

Coordination is enhanced through regular meetings of the Strategic Health Operations Centre meetings and updates, joint risk assessment with countries in the Region, and the regular exchange of epidemic intelligence within WHO.

The next steps have been identified as country-focus planning to incorporate key strategies into national planning for communicable disease control, WHO Country Office biennium plans for 2008-2009 and resource mobilization to support implementation at the country level.

*SEARO/WPRO joint activities presented by Dr Gyanendra Gongal,
Communicable Diseases Surveillance and Response, WHO/SEARO*

EIDs, particularly zoonoses, will continue to occur. APSED is a five-year plan to ensure that all countries in the Asia-Pacific Region will achieve the core capacities required for disease surveillance and response by 2010. Regional activities for programming and budgeting have drawn a favourable response as donors regard APSED as the framework for regional health security.

Potential donors and partners include ADB, AusAID, JICA, CIDA, the EU, USAID and US CDC. Australia has committed 100 million Australian dollars over four years to combat the threat of pandemics and other EIDs in the Asia-Pacific. AusAID has also provided US\$ 12 million to WHO for APSED implementation.

The ADB has committed US\$ 7.1 million over the two-year period of 2006-2008 to Western Pacific and South-East Asia Regions for strengthening AI preparedness, surveillance and response capacity at the Regional level. The ADB fund has assisted both the Regional Offices in the recruitment of a multidisciplinary

team for technical support to Parties in core capacity requirements for rapid response and containment and risk communications. Canadian International Development Agency (CIDA) has provided 10 million Canadian dollars for 2008-2010 for in-country and country-support activities in the Asia-Pacific Region. The beneficiary countries are the Kingdom of Cambodia, The People's Republic of China, Lao People's Democratic Republic, The Republic of Indonesia, The Republic of Philippines, The Democratic Republic of Timor-Leste and the Socialist Republic of Vietnam.

A number of related technical meetings have been held in the last 12 months. A bi-regional cross-border meeting on EIDs was held on 26-28 February 2007 involving stakeholders in non-health sectors critical to border health security. The meeting agreed on a strategic framework for intersectoral collaboration at cross-border areas. A bi-regional meeting on the strengthening of laboratory capacities was held in Kuala Lumpur, Malaysia, 20-24 November 2006. A meeting of National Influenza Centres (NICs) of the Asia-Pacific Region and a laboratory biosafety workshop were held in Melbourne, Australia, in May 2007. The NICs reviewed influenza surveillance needs, and approaches to close gaps in surveillance. A regional plan to strengthen laboratory capacity was an output of that meeting. There have also been a number of regional multisectoral meetings, and workshops involving several WHO regions, UN partners and selected Parties to improve the coordination of surveillance and response to emerging zoonoses with the emphasis on HPAI A/H5N1 in animal and human populations.

Dr Gongal highlighted the following challenges:

- Developing minimum core capacities for surveillance and response by 2010.
- Harmonizing standard operating procedures and standards for laboratory strengthening, infection control and quarantine.
- Developing and maintaining transparency in disease reporting
- Mobilizing adequate resources for development of infrastructure for basic surveillance and response in all countries of the Asia-Pacific Region.
- Ensuring the sustainability of surveillance and laboratory networks.
- Making best use of the TAG as a panel of experts.

The next steps for APSED implementation in the SEA Region include:

- Establishment of networking of epidemiological and laboratory units in the Asia and the Pacific.
- Development of country profiles (emerging zoonoses, laboratory capacity).
- Development of country specific workplans in priority programme areas.
- Technical support to Member States in developing standard, field-oriented training programmes, i.e. training in outbreak response and rapid response and containment.
- A mid-term review of APSED.

APSED sub-workplans presented by Dr Takeshi Kasai, Communicable Diseases Surveillance and Response, WHO/WPRO

Dr Kasai gave a brief overview of the APSED sub-workplans being implemented in the WPR and made a presentation influenza surveillance in the WPR.

Influenza surveillance in the Western Pacific Region

Priority activities for implementation of the bi-regional capacity-building workplan for influenza surveillance include:

- Holding annual meetings with the NICs in the Asia-Pacific Region
- Prioritizing NICs in high-risk countries and in those with limited capacity in influenza surveillance, diagnosis and outbreak investigation.
- Using NIC data to describe the burden of influenza in the Asia-Pacific Region in collaboration with the clinical surveillance of ILI, and to confirm the proportion of ILI that was laboratory-confirmed influenza. Pilot studies are proposed to collect preliminary data on the burden of influenza in those countries without comprehensive influenza surveillance programmes.
- Describing influenza seasonality in the Asia-Pacific Region.

- Supporting NICs in the development of QA systems and other guidance on laboratory capacity strengthening.

Separate discussions are underway with island countries and territories in the Pacific ocean that have unique economies of scale and logistical requirements.

Global Outbreak Alert and Response Network (GOARN): Regional strengthening: Presented by Ms Amy Cawthorne, Communicable Diseases Surveillance and Response, WHO/WPRO

The recommendations arising from the regional GOARN partners, meeting on 12-13 April, 2007 in Sendai, Japan, formed the basis of a regional workplan aimed at supporting the development of GOARN in the WPR and strengthening collaboration and coordination of GOARN at the regional and global level.

The workplan focuses on the following strategic areas:

- The development of regional GOARN administrative and logistical procedures by adopting and adapting global standards for administration and logistics developed by WHO/HQ and the GOARN Steering Committee.
- Coordinating deployment of GOARN teams with the GOARN Secretariat at WHO/HQ, streamlining WPRO recruitment and deployment procedures, and agreeing on communication and coordination procedures between GOARN/HQ and WPRO.
- Promoting GOARN in the Western Pacific Region through advocacy and annual regional meetings.
- GOARN capacity-building through GOARN team leadership training for potential team leaders and members from institutes in the Western Pacific Region. The first course is scheduled for November 2007.

Strengthening training in field epidemiology presented by Ms Amy Cawthorne, Communicable Diseases Surveillance and Response, WHO/WPRO

WPRO has been working with partner institutions to strengthen training in field epidemiology and outbreak response. Two options are currently under consideration: Traditional FETPs aimed at producing highly skilled epidemiologists

and short course training aimed at other public health staff who may be involved in field responses. The role of the Western Pacific Regional Office will be to support countries either by establishing high-quality field epidemiology training to address country-specific needs or by strengthening existing programmes and supporting sustainability and autonomy and coordination.

Laboratory workplan presented by Dr Bee Lee Ong, Communicable Diseases Surveillance and Response, WHO/WPRO

The objectives of the APSED workplan for laboratory strengthening are to ensure accurate diagnosis, improve biosafety, support surveillance and response, and improve laboratory networking.

Biosafety is a particular area of concern regarding stakeholder commitment, policy and procedures, regulatory framework development and safety standards, and sustainable biosafety infrastructure and training. The APSED biosafety workplan has been developed to meet the objectives and address challenges in the Western Pacific Region. A biosafety consortium comprising biosafety experts from the Regions, Headquarters, other technical experts and donor agency representatives has been assembled. This consortium has developed the “Green Light Committee Issue Paper” and a Green Light Committee potentially to serve as Technical Advisory Group offering advice on design and biosafety standards of new and existing facilities and on facilitating technical evaluation.

The zoonoses workplan presented by Dr Bee Lee Ong, Communicable Diseases Surveillance and Response, WHO/WPRO

The goal of the APSED zoonoses workplan is to develop a sustainable coordinating mechanism at the regional and country levels for four areas of work – risk reduction, surveillance and information sharing, coordinated response, and collaborative research. The workplan is being implemented in two phases. Phase 1 involves developing a regional mechanism between FAO, OIE and WHO and Phase 2 aims to develop effective collaboration between the animal and human health sectors at the country level.

TAG discussion for APSED workplan implementation

The discussion was focused on the modalities and applicability of field epidemiology training activities, setting of standards for laboratory services,

zoonoses and infection control. Concerns were raised about whether national laboratories in this Region meet international standards and on how to accredit BSL-3 laboratories. The need to strengthen laboratory services to generate evidence-based information was also highlighted.

Dr Yusharmen pointed out that the FETP is focusing on high-level and long-term training which is difficult to pursue due to various reasons and suggested that short courses for field health professionals may be more suitable. Dr Narain informed the meeting that SEA Regional Office is pursuing the development of courses of two-year duration along with short-term field epidemiology training activities that complement each other. Dr Hall pointed out the need for skill, a dedicated organization and financial resources required to conduct and supervise a complete Field Epidemiology Training Programme of two-year duration.

Dr Kasai informed the meeting that the NICs are a good starting point for strengthening virological and epidemiological surveillance systems. Dr Kasai noted that currently there are 19 NICs in 13 countries in the Western Pacific Region while one more is being established in Cambodia. Dr Caussy informed that there are eight NICs in six countries in the SEA Region and Myanmar is in the process of establishing one. Dr Narain stated that SEA Regional office is working towards designating influenza reference laboratories in Indonesia and India. One limitation in the current system of designation, he pointed out; is that it has not been reviewed to ensure ongoing expertise and quality. This issue is being discussed with WHO Headquarters, he added. Prof. Nicoll said that the terms of reference for NICs need to be taken into consideration. Country capacity needs with respect to influenza surveillance require assessment and funding provisions should be made accordingly.

Dr Chu noted that there is no international standard for biosafety and WHO has merely developed guidelines. She stated that the proposed Biosafety Consortium and Green Light Committee in the Region may serve as models for certification of laboratory standards and/or accreditation of laboratories. Dr Chu stated that WHO/HQ is working with the OIE for harmonization of public health and veterinary laboratory standards. Prof. McKenzie noted that it is necessary to follow national law/legislation during the certification process which may complicate the procedure.

Dr Tangcharoensathien said that infection control under the APSED is a low-key programme area and suggested that both Regional Offices develop ideas to prioritize key action areas and identify core capacities for infection control. Dr Maloney highlighted the need for overall strengthening of hospital preparedness (which would include infection control).

Dr Oshitani mentioned that few emerging zoonoses are associated with farm animals, and therefore collaboration between the health and agriculture sectors is important but not adequate sufficient for zoonoses control. Dr Hall said wildlife, including rodents, is an important source of zoonoses for which collaboration with other sectors such as wildlife health and the environment are necessary. Prof. McKenzie reiterated the need to promote a joint approach to the prevention and control of emerging zoonoses and expressed concern that it remained unclear as to which international agency is responsible for diseases that originated from wildlife, game animals and rodents. Dr Xiao informed that joint investigation by human and animal health authorities of AI outbreaks has been actively pursued in China to identify the potential source of human AI infection.

Dr Kasai told the meeting that the five priority programme areas are considered the five pillars of APSED implementation. There is the need to focus priority activities within each programme area, he said, and requested that the TAG should recommend whether there is the need to establish an informal sub-working group meeting to identify the minimum requirements for the strengthening of infection control. Dr Hall noted that strengthening the early response to emerging diseases (APSED Objective 3) had received considerable attention while other programme areas have been neglected.

As part of the response to emerging diseases, the regional network of GOARN should be institutionalised and made functional simultaneously in both Regional Offices. Dr Merianos informed the meeting that a review of GOARN was underway to evaluate the strengths and challenges faced by the Network to ensure that the objectives, ways of working and partnerships were in line with the changing environment of international health security. The regional workplan aimed at supporting the development of GOARN should take into account that country capacity strengthening in alert and response will, over time, reduce the need for support during small-scale outbreaks. Future planning should ensure a mechanism to enable ongoing collaboration between the affected country and GOARN partners in areas requiring capacity strengthening such as through bilateral arrangements, once the outbreak response is completed.

Session IV: Review and country experience

The session provided a review of the terms of reference of the TAG on emerging infectious diseases, and progress reports from the two Regional Offices.

Revisiting recommendations made by the First TAG Meeting: Progress made

The first TAG meeting made six general recommendations and a number of specific recommendations to Member States and WHO after considering of the bi-regional WHO five-year APSED workplan. SEARO and WPRO reported back on the implementation status of the recommendations.

*SEARO progress report presented by Dr Khanchit Limpakarnjanarat,
Communicable Diseases Surveillance and Response, WHO/SEARO*

Dr Limpakarnjanarat summarized the progress report "Implementation Status in the SEA Region". Progress has been encouraging in many areas, he said. AI preparedness was the subject of the Conference of Ministers of Health and Agriculture/Livestock on Avian Influenza Control and Pandemic Preparedness in Asia that resulted in the "Delhi Declaration" that commits to implement surveillance and response capacities. A task force for follow-up of the "Delhi Declaration" has been instituted.

The CSR in SEARO is now equipped with a multidisciplinary team and better resources. Regional response capacity has been further strengthened through the establishment of CSR sub-units in New Delhi and Bangkok to coordinate IHR, APSED and AI activities, via strengthening of the regional reference laboratory capacities and the constitution of a task force for research on AI. SEARO has supported a number of outbreak investigations, including avian influenza outbreaks in Indonesia, Myanmar and Bangladesh, chikungunya fever in India and Maldives, and dengue fever in Nepal.

- Progress in implementation of IHR (2005) includes country assessments and a roadmap for the development of national plans. Both regions have agreed on the APSED workplan and the checklist of activities for surveillance and response, and for veterinary public health. A checklist for assessment of public health and veterinary laboratory capacity in Member States has been developed. A roadmap for the development of national plans for the implementation of the IHR (2005) was presented in the first meeting on IHR implementation in Male and step-by-step guidance for the implementation of IHR (2005) is being developed to facilitate Member States in their national planning process.

- SEARO has been developing a regional strategy for an FETP, training modules for RRT, short courses in field epidemiology and tropical diseases, and a number of guidelines, including those on AI surveillance and outbreak response.
- Activities in the prevention and control of zoonotic diseases include the development of the Regional Strategic Framework for Prevention and Control of Zoonoses (in progress) and a regional meeting planned for November 2007. Zoonoses risk assessment tools have also been prepared.
- Consolidating coordination through bi-regional planning will be needed in the next phase of APSED implementation.

WPRO progress report presented by Dr Takeshi Kasai, Communicable Diseases Surveillance and Response, WHO/WPRO

Dr Kasai summarized the progress report on implementation status and the activity update on “Complying with the International Health Regulations (2005) in the WHO Western Pacific Region”.

- In the Western Pacific Region, the First TAG recommendations were endorsed by its Regional Committee in September 2006. The APSED and the WHO APSED workplan are currently being implemented as a critical framework and tool for countries to meet commitments in the prevention and control of communicable diseases and for strengthening national and regional capacity for surveillance and response.
- A sub-working group meeting on surveillance and response was convened in September 2006 to develop the APSED minimum standards for surveillance and response. The members of the subgroup included a TAG member from NIID Japan, a representative of the IHR core capacities working group from WHO Lyon, and officers from WHO country offices and the Regional Office. Sub-working group meetings for other programme areas are also planned.
- The APSED Baseline Data Collection Checklists covering the five programme areas of APSED implementation have been developed for use in country assessments in the Western Pacific Region. WPRO priority support in conducting country assessment and workplan development has been extended to six countries with the greatest need:

Cambodia, Lao PDR, Mongolia, Papua New Guinea, the Philippines and Viet Nam. Lao PDR and the Philippines have developed their draft national plans of action to support the establishment and maintenance of the core capacities required under the IHR (2005) and to ensure the implementation of APSED.

- The Western Pacific Regional Office has also developed several APSED sub-workplans for the TAG review, including a plan to strengthen regional outbreak alert and response capacities through bolstered regional partnerships in the Global Outbreak Alert and Response Network and an APSED sub-workplan for strengthening laboratory biosafety.
- Based on the experience and lessons learned, it is proposed that the WHO five-year APSED sub-workplans be further modified to reflect new priorities. Greater effort should go towards improving appropriate long-term resourcing at all levels involved in implementation as well as human resource development.

Port health – presented by Dr Sampath Krishnan, WHO Country Office, India

Dr Krishnan gave an overview of the structures, protocols and procedures that had been put in place by the Government of India in accordance with the IHR (2005) core capacity requirements for designated PoE. Various agencies are involved in port health-related work in India, including health quarantine. Therefore, a multisectoral approach is required to meet the core capacity requirements for designated international airports, ports and ground crossings under the IHR (2005). India has seen a significant increase in international travel and trade, including the import and export of livestock products. India has 21 airports, 12 seaports and three major ground crossings. Among them, it has been decided to develop core capacities required under Annex 1B of the IHR (2005) in five international airports, nine ports and one ground crossing. In addition, there are animal quarantine stations at four international airports in Delhi, Chennai, Kolkata and Mumbai.

Dr Krishnan presented India's operational plan for strengthening the core capacities of ports and ground crossings which included legislative reform, improving screening mechanisms, better case management, isolation and quarantine services at designated PoE, staff training, and efficient programme monitoring and evaluation.

TAG discussion on port health

Discussions were held and clarifications made to ensure clear understanding about designated points of entry. Port health is becoming an important and complex issue that requires the involvement of different agencies for capacity-building. The importance of preparedness for potential public health emergencies at the points of entry was emphasized.

Dr Hardiman informed the meeting that Parties decide which ports, airports and ground crossing points governments wish to designate to develop the required capacities under the IHR (2005). WHO is developing guidelines to assist countries in PoE designation.

The timelines that apply to the implementation of other core capacities under the IHR (2005) also apply to PoE requirements, i.e. they must be in place within five years of the Regulations coming into force. The Ship Sanitation Control Certificate, which comes into effect immediately, has a much broader scope than “de-ratting”.

Development of port health not only involves application of IHR requirements but also requires an effective operational plan that clearly identifies command and control structures across all stakeholders. There is a need for guidelines, training materials, consultant support to countries from specialists in port health, and generic terms of reference for staff who work at PoE. A need for a network for PoE officials for peer support and the exchange of ideas was highlighted.

Prof. Ganguly recalled that during the time of the SARS outbreak almost everyone with even mild fever was investigated and placed in quarantine if necessary. He stressed the importance of surge capacity, training and agreed procedures. Dr Maloney noted the importance of land borders which prove to be the biggest challenge for many countries. Dr Hardiman agreed, saying that there was little experience within WHO of the risks at land borders because of their different nature in different countries and between localized crossing points by road or rail and unmarked land crossings. Dr Yusharmen gave the example of clinical specimen collection for meningococcal disease during the Hajj to highlight the potential effects of port quarantine and the importance of containment at source. Dr Hall suggested that PoE preparedness planning should take into account prevention, surveillance, operational response plans, preparedness for surge capacity and technical collaborations. Dr Krishnan highlighted the importance of close linkages with local health authorities to reinforce human resources in large scale port of entry events.

Avian influenza control in Indonesia: Opportunities and challenges: presented by Dr Yusharmen, Ministry of Health, Indonesia

Indonesia shared updated information and its experience in preventing and controlling avian influenza A (H5N1). The country had detected AI outbreaks in poultry in 32 of its 33 provinces that affected 292 districts and municipalities during the period 2004-2007. There have been 102 cases of human infection with A/H5N1 in 11 provinces, with 81 deaths. Ten family clusters have been investigated; none showed evidence of sustained human-to-human transmission.

A comprehensive programme of prevention, detection and control measures has been implemented in Indonesia. This includes a national preparedness plan, integration of surveillance for AI between animal and human health sectors laboratory networking, designated referral hospitals, training of rapid response teams in high-risk areas, a pilot project of AI virology surveillance, and the establishment of a special task force.

Dr Yusharmen identified both opportunities and challenges in using “averting AI” as an entry point to the IHR (2005) core capacity strengthening. Opportunities have included the national and international human, technical, material and financial resources that have been invested in AI and can also be used to support IHR implementation and the control of other emerging infectious diseases. Challenges to AI preparedness and response include the legal aspects, lack of stakeholder and community commitment, and coordination of activities among national authorities and with the international community, community participation and sustainable resource mobilization.

TAG discussions on influenza

Country experiences on preventing and responding to avian influenza in Thailand, China and India were also shared during the discussions with a focus on the issue of decentralization, the universal challenge of managing backyard farms, surveillance and response systems, drug policy and biosecurity concerns. The need for better collaboration between human and animal health sectors and technical support for the capacity building and development of mechanisms in early detection and rapid response were emphasized.

Dr Tangcharoensathien noted that the historical difficulties in collaboration between the human health and animal production sectors are likely to remain. Dr Xiao also noted that there are ongoing difficulties in intersectoral collaboration and coordination between health and agriculture. Previously in China, animal health

authorities tended to share AI outbreak information in animals once the diagnosis was confirmed. This was too late to prevent human infection. There is now an agreement that animal and human health workers arrive in the field at the same time for a joint investigation and preventive measures such as social mobilization and risk communications. This approach has enabled the earlier detection of human cases and opportunities for health promotion. Web-based AI outbreak reporting is currently practised in China and is highly effective for prompt communication and timely action. Exposure is unknown in approximately one third of reported human cases of A/H5N1 in China. All pneumonias of unknown aetiology are subject to immediate notification so that an expert review can be undertaken.

Prof. Ganguly informed the meeting that India has 10 sites for influenza surveillance. To date, no human cases of A/H5N1 have been detected. Complete physical mapping of wild bird strains has been carried out on the migration pathways. A multisectoral committee has been convened in collaboration with the Ministry of Environment which has mapped and modelled wild bird migration and hot spots for surveillance activity. India has also established 24/7 call centres for the public to supplement surveillance activities. An influenza surveillance network of five to six institutions is being established and about a dozen laboratories will also participate in laboratory surveillance. The Department of Animal Husbandry and Dairying is also establishing routine bird surveillance.

Dr Lal raised the issue of importance of policies restricting access to antiviral drugs, and the practical problems of biosecurity at the field level for animal handlers and health care workers and the quarantine of cases. A major problem area for humans is backyard poultry.

Session V: Adoption of TAG recommendations

Presentation of the recommendations of the Second TAG Meeting

The TAG reviewed its Terms of Reference (ToRs) as a starting point to re-examine its role. Overall, the TAG members determined that their ToR are still valid. However, there is a need for greater dynamism and a mechanism should be put in place to convene emergency meetings of the TAG as required.

The implementation of the APSED is the primary responsibility of the TAG. However the TAG should also be able to review and monitor the capacity to

respond to EIDs in the Asia-Pacific Region. Consideration should also be given to meetings of the TAG and TAG experts to review the strategic direction.

Prof. Mackenzie recommended that the assessment of progress should be based on the monitoring of achievements against the established milestones of the WHO APSED workplan. For the next meeting, the TAG monitoring process should go through the agreed milestones and focus on the strategic directions. To be consistent with the TAG ToR, Prof. Mackenzie suggested that the Regional Advisers provide a commentary of EIDs, and the response to outbreaks of EIDs, over the previous 12 months as a means of assessing the effectiveness of APSED implementation. For future TAG meetings, TAG members should be provided with the reports and other supportive materials ahead of the meeting to ensure that sufficient time is available for study. In addition, adequate time should also be allocated to the TAG members to discuss and formulate recommendations and suggestions in the light of the report of the previous year and presentations made during the meeting.

The mid-term review of APSED implementation was discussed. Dr Hall suggested that the TAG be involved in the design of the review to be conducted by WHO. Involvement of the TAG will also assist donors in determining areas for future funding.

Risk communication expertise is currently missing from the TAG panel. Dr Tee suggested that additional TAG members or advisers should be called in on an ad hoc basis as required in order to keep TAG membership small. Dr Oshitani reminded the meeting that the role of the TAG is to make general recommendations rather than specific technical comments, especially when there was insufficient time to reach a consensus on the issues discussed.

There is a need to systematically review and map the list of issues raised against the workplan for prioritization and integration either by the TAG or WHO. The views of the APSED Project Managers, meeting from 20-21 July 2007, should also be considered. Dr Kasai reminded the meeting of how the step-wise workplan was developed for 2006-2010 to ensure that all countries prioritized the capacities required in the immediate to short term. Dr Limpakarnjanarat noted that emergencies that have occurred in the last 12 months have led to some delays in APSED implementation. WHO will further enhance the workplan to capture the new high-level recommendations. Dr Tee suggested that any changes in activity prioritization should be considered in the context of what is also being developed by other programmes in WHO, e.g. in risk communication.

Final recommendations of the Second Meeting of the Asia-Pacific Technical Advisory Group for EID

TAG made a number of general and specific recommendations on the following three areas of work: avian influenza and pandemic influenza; implementation of the WHO APSED workplan, including five programme areas of work; and compliance with the IHR (2005).

General observations and recommendations

- (1) The TAG emphasized strongly that a multi-sectoral approach was fundamental to the success of combating the threats from avian influenza, the next influenza pandemic, and other emerging infectious diseases (including zoonoses) as was ensuring that action reached down to the provincial and local levels.
- (2) The TAG emphasized the importance of distinguishing three phases of pandemic planning: averting avian influenza, containing the spread of an emerging human pandemic influenza virus (i.e. rapid containment) and responding to the next influenza pandemic. The TAG, therefore, recommended the need for all countries to: (1) continue to strengthen avian influenza surveillance and response; (2) prepare for rapid containment, including the inclusion of a rapid containment component into National Influenza Pandemic Preparedness Plans; and, (3) improve pandemic response. WHO was tasked with the revision of the WHO guidelines for pandemic preparedness.
- (3) Following the first TAG recommendations on country baseline assessment and workplan development, the 2nd TAG meeting recommended that APSED be further implemented through: (1) extending national capacity from avian influenza-specific activities to broadly managing emerging infectious diseases; (2) conducting the APSED mid-term assessment in selected countries with the advice and/or involvement of TAG members; and, (3) strengthening operational research, including studies on effectiveness of public health interventions.
- (4) The TAG emphasized the need for training and sustainable human resource development for APSED implementation. The TAG therefore recommended that training plans be developed and implemented, including FETP and short competency-based courses in epidemiology, infection control, biosafety etc. The TAG also recommended that

sustainable capacity be developed through human resource assessment and planning.

- (5) The TAG recommended that the following actions be taken to further comply with the International Health Regulations (2005) in the Asia-Pacific Region: (1) strengthening the full functions of National IHR Focal Points; (2) strengthening public health measures and capacity at designated points of entry including reviewing port health, developing guidelines and SOPs for port health activities in line with IHR (2005); (3) developing the core capacities including laboratory services required under the IHR (2005) through effective APSED implementation.

Specific recommendations

- (1) Surveillance and response:
 - Develop further event-based surveillance, especially on practical guidance for countries, and outputs to feed into IHR reporting.
 - Strengthen links between event-based and indicator-based surveillance; between surveillance and response; between animal and human surveillance and response; and between laboratories and surveillance and response.
- (2) Laboratory capacity:
 - Determine the need for laboratory capacity-building through mapping of laboratory capability and strengthen laboratory network for collaboration and utilization of available resources.
 - Implement standard protocols for the transport of potentially infectious diagnostic samples.
 - Further develop External Quality Assurance (EQA).
 - Strengthen laboratory biosafety programmes.
- (3) Zoonoses:
 - The TAG emphasized that since most emerging diseases arise from wildlife or domestic animals, multi-sectoral approaches and mechanisms for exchange of zoonotic disease information and coordination of zoonoses responses need to be developed as a matter of priority.

(4) Infection control:

- The TAG observed that the sub-workplan for infection control had not progressed satisfactorily in the first period of the APSED implementation. It emphasized its crucial nature because of the role of health-care facilities in amplifying disease transmission and the early detection of significant events. The TAG therefore recommended that this area of work be given greater emphasis over the next year.

(5) Risk communication:

- Use and promote best practices on risk communication drawing on the successful experiences from avian influenza.
- Develop partnerships and support a regional network on risk communication.
- Conduct an assessment, mapping and gap analysis of Information, Education and Communication (IEC) materials and related communication products.
- Routinely incorporate risk communication into preparedness and response.

(6) WHO regional functions:

- Continue to support avian influenza surveillance and outbreak response.
- Further strengthen regional outbreak alert and response capacity through strengthening the Global Outbreak Alert and Response Network (GOARN), and develop and maintain a roster of experts for longer-term support.
- Ensure adequate staffing for communicable disease surveillance and response in the regional offices.
- Encourage technical collaboration with regional networks and technical institutions.
- Document examples of best practice.

(7) Applied research:

- Identify operational and other research priorities arising from ASPED-related work and draw it to the attention of those undertaking and funding research.
- Be able to undertake rapid operational research to investigate new and important questions, e.g. apparent nosocomial transmission of the Nipah virus.

Session VI: Closing session

Adoption of final recommendations

The TAG members made a list of detailed technical recommendations or comments on APSED and IHR implementation. The final general recommendations were summarized based on the detailed technical recommendations and after further consideration of the suggestions and additional issues raised against the APSED workplan by WHO and TAG members. The meeting provided an opportunity for detailed discussions across a wide range of issues.

Closing remarks by the Director, DCC/WPRO

Dr Tee thanked all TAG members, representatives from countries and colleagues from HQ for their ongoing involvement and support, and the SEA Regional Office for organizing and preparing this meeting. Progress has been made except in some difficult areas, notably infection control and risk communication, and these areas are to be given priority in the next 12 months. Due consideration will be given to ensure that the TAG be given a greater time to review and digest information for more effective meetings. WHO will keep to the goal of ensuring that all Member States of the Asia-Pacific Region reach the core capacity requirements by 2010. There is a need to develop indicators to measure progress in real terms. These recommendations will be taken to the WPRO Regional Committee in September 2007. The tentative dates for the Third TAG Meeting to be held in the Western Pacific Region are June-July 2008.

Closing remarks by the Director, CDS/SEARO

Dr Narain thanked TAG members, representatives from countries and colleagues from Headquarters and WPRO for their participation and support. He highlighted the importance of improved integration and collaboration between SEARO and WPRO. He also noted that a mechanism for more regular communication with the TAG members, HQ and the Regional Office needs to be established. The meeting not only discussed issues concerning the Asia-Pacific Region but also those of broader international concern. SEARO and WPRO are committed to the APSED and are working collaboratively on behalf of the Member States of the Asia-Pacific Region, he observed, concluding the second TAG Meeting.

Annex 1

Programme schedule

Wednesday, 18 July 2007

Time	Programme details	Focal person
08:30 – 09:00	Registration	
Agenda I: Inaugural session		
09:00 – 9:30	Opening Address by Dr Poonam Khetrapal Singh, Deputy Regional Director, SEARO Opening remarks by Prof. N.K.Ganguly, DG-ICMR Opening remarks by Dato Dr Tee Ah Sian, WPRO Background and objective of the meeting by Dr Khanchit Limpakarnjanarat, CSR/SEARO Introduction of participants Announcements	
9:30 – 10:00	Group Photograph	
Agenda II: Updated issues		
	Chairperson: Dr Shiv Lal Co-Chairperson: Dr Lim Poh Lian Rapporteur: Dr Angela Marianos	
10:00 – 10:45	Emerging infectious disease situation in Asia and the Pacific	Dr Jai Narain, Director, CDS, SEARO
10:45 – 11:30	Global progress in IHR (2005) implementation	Dr Max Hardiman, WHO/HQ

- 11:30 – 12:15 Status of IHR (2005) implementation in Asia and the Pacific
- WPRO (15 minutes) Dr Ailan Li, CSR, WPRO
 - SEARO (15 minutes) Dr Harry Caussy, CSR, SEARO

Agenda III: Asia-Pacific Strategy for Emerging Diseases

Chairperson: Prof. John McKenzie
Co-Chairperson: Dr Tatsuo Miyamura
Rapporteur: Dr Moe Ko Oo

- 13:30 – 14:15 Pandemic preparedness in the Asia-Pacific Region
- WPRO Dr Bee Lee Ong, CSR, WPRO
 - SEARO Dr Maureen Birmingham, CSR, SEARO
- 14:15 – 15:15 Overall progress in APSED implementation
- WPRO Dr Takeshi Kasai, CSR, WPRO
 - SEARO Dr Ayana Yeneabat, SEARO
- 15:15 – 15:45 SEARO/WPRO joint activities in the context of APSED Dr Gyanendra Gongal, CSR, SEARO
- 16:00 – 17:00 APSED sub- workplans Dr Takeshi Kasai, CSR, WPRO

Thursday, 19 July 2007

Agenda IV: Review and country experience

Chairperson: Prof. Angus Nicholl

Co-Chairperson: Dr Donglou Xiao

Rapporteur: Dr Ailan Li

- 09:00 – 09:30 Revisiting the recommendations made by First TAG Meeting: Progress made
- WPRO Dr Takeshi Kasai,
 - SEARO Dr Khanchit Limpakarnjanarat,
- 09:30 – 10:30 TAG member meeting
- 11:00 – 11:30 Port health Dr Sampath Krishnan
WHO India
- 11:30 – 12:00 Avian influenza control in Indonesia – Opportunities and challenges Dr Yusharmen
Indonesia

Agenda V: Adoption of recommendations

Chairperson: Dr Viroj Tangcharoensathien

Co-Chairperson: Dr Susan Maloney

Rapporteur: Dr Angela Marianos

- 13:00 – 14:00 Presentation of recommendations of Second TAG Meeting

Agenda VI: Closing session

Chairperson: Prof. N.K. Ganguly

Rapporteur: Dr Angela Marianos

- 14:00- 14:30 Adoption of final recommendations
Third TAG meeting in 2008
Remarks by Director DCC/WPRO
Remarks by Director CDS/SEARO
Vote of thanks

Annex 2

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