# National Influenza Centres and Influenza Surveillance in the WHO’s South-East Asia and Western Pacific Regions

Report of the tenth bi-regional meeting Bangkok, Thailand, 25-27 July 2016

## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Summary</td>
<td>2</td>
</tr>
<tr>
<td>Tenth Meeting of the National Influenza Centres and Influenza Surveillance in the Western Pacific and South-East Asia Regions</td>
<td>4</td>
</tr>
<tr>
<td>Introduction</td>
<td>4</td>
</tr>
<tr>
<td>Objectives and expected outcomes</td>
<td>4</td>
</tr>
<tr>
<td>Proceedings of the meeting</td>
<td>4</td>
</tr>
<tr>
<td>Implementation of the Pandemic Influenza Preparedness (PIP) Framework in the WHO South-East Asia and Western Pacific Regions</td>
<td>2</td>
</tr>
<tr>
<td>Introduction</td>
<td>2</td>
</tr>
<tr>
<td>Objectives and expected outcomes</td>
<td>2</td>
</tr>
<tr>
<td>Conclusions and recommendations</td>
<td>21</td>
</tr>
<tr>
<td>Conclusions</td>
<td>21</td>
</tr>
<tr>
<td>Recommendations</td>
<td>21</td>
</tr>
</tbody>
</table>
Executive Summary

The Tenth bi-regional meeting of national influenza centres and influenza surveillance in the World Health Organization’s (WHO) South-East Asia and Western Pacific Regions was held in Bangkok, Thailand from 25 to 27 July 2016.

The purpose of the meeting was to strengthen influenza virus detection, isolation and sharing; reporting and data usage; and to strengthen and develop influenza vaccine policies in Member States. The objectives of this meeting were to (1) update participants on the current global and regional status of seasonal, avian and other influenza viruses of pandemic potential; (2) review the progress made under the current five-year influenza strategy from 2012-2016 in the Asia-Pacific, and present the Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies (APSED) as a forward strategy for the surveillance of influenza and other emerging diseases; (3) provide updates on virology; discuss ways to further strengthen detection and characterization of influenza viruses; review approaches to antiviral resistance surveillance; and discuss external quality assessments; (4) discuss strengthening of reporting, virus tracking and data usage in the Asia-Pacific, including approaches to obtaining the burden of influenza; and (5) introduce the path from data to influenza vaccine introduction in the Asia-Pacific and share global and regional evidence on protecting pregnant women and infants through influenza vaccination.

The meeting was inaugurated by the Senior Advisor to the Regional Director of the WHO Regional Office for South-East Asia and the Director General of the Department of Clinical Sciences, Ministry of Public Health, Kingdom of Thailand.

The meeting consisted of sessions on the following: (1) Update on the current global and regional status of seasonal, avian and other novel influenza virus sub-types and progress made under the Biregional plan for further strengthening National Influenza Surveillance: Guiding the way towards influenza control policy and regional surveillance; (2) Laboratory: external quality assessments and antiviral resistance surveillance and epidemiology; (3) Pandemic influenza preparedness framework; (4) Strengthening reporting and virus tracking; (5) Strengthening data usage: burden of influenza; and (6) Influenza vaccine – protecting pregnant women and infants.

Meeting recommendations to the Member States included that they (1) continue to strengthen influenza surveillance systems, sharing of national epidemiology and laboratory surveillance data, and use of surveillance data in risk assessment and decision-making; (2) continue with burden of influenza (including economic burden) estimation efforts and the sentinel surveillance systems on which they are based; (3) continue to strengthen/maintain laboratory capacity for the detection of influenza viruses and ensure laboratory quality through participation in external quality assessments (EQA); (4) ensure influenza viruses of pandemic potential are shared by NICs with WHO CCs and relevant reference centres for confirmation and further characterization; and use the Influenza Virus Traceability Mechanism (IVTM) where appropriate; (5) encourage the use of data and collaborations between surveillance networks, immunization programs and policy makers to guide vaccination strategies or support the development of influenza vaccination policy; and (6) continue to align influenza surveillance activities with the Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies (APSED).
The meeting recommended to the WHO to (1) continue to support Member States to strengthen influenza epidemiology and laboratory surveillance and networks, including influenza burden estimation activities; (2) promote the sharing of regional influenza surveillance data through regional influenza surveillance dashboards, global platforms and publications; (3) support Member States through their NICs and national influenza laboratories to maintain laboratory quality; encourage influenza virus detection, isolation, characterization and sharing; and the use of IVTM for influenza viruses of pandemic potential; (4) expand the name of the annual meeting to the Biregional meeting of National Influenza Centres/Programmes in the WHO South-East Asia and Western Pacific Regions; and (5) coordinate the integration of influenza surveillance activities into the Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies (APSED).

A side meeting on the Implementation of the Pandemic Influenza Preparedness (PIP) Framework in the WHO South-East Asia and Western Pacific Regions was also held in Bangkok, Thailand on the 26 July 2016. The objective of this session was to review the implementation of the PIP framework to date and plan the way forward for the remainder of 2016 and 2017. The objectives of this meeting were to: (1) update Member States in the WHO South-East Asia and Western Pacific Regions on PIP implementation in the first half of 2016 from the global perspective, planning processes for 2017 and the next steps in planning for 2018 and beyond; (2) review the implementation of the PIP Framework both regions in the first half of 2016; (3) review national priorities and strengthen PIP fund implementation on the basis of these priorities and in line with the Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies (APSED) and PIP high-level implementation plan objectives; and (4) discuss the progress, challenges and way forward to expedite the high-level implementation plan capacity building in both regions.
Tenth Meeting of the National Influenza Centres and Influenza Surveillance in the Western Pacific and South-East Asia Regions

Introduction

The Tenth Meeting of the National Influenza Centres and Influenza Surveillance in the Western Pacific and South-East Asia Regions took place in Bangkok, Thailand from 25 to 27 July 2016. The meeting was coordinated by the World Health Organization (WHO) Regional Office for South-East Asia in collaboration with the WHO Regional Office for the Western Pacific.

The aim of the meeting was to bring together Member States, National Influenza Centres (NICs) and WHO Collaborating Centres, as part of the Global Influenza Surveillance and Response System (GISRS), to discuss issues, challenges and solutions for the epidemiological and laboratory surveillance of seasonal, avian and other influenza viruses of pandemic potential.

There were 31 participants from 14 Member States in the WHO South-East Asia and Western Pacific Regions, seven temporary advisers, 21 observers from partner agencies and 29 participants representing WHO headquarters, the two regional offices and country offices.

Objectives and expected outcomes

The purpose of the meeting was to strengthen influenza virus detection, isolation and sharing; reporting and data usage; and to strengthen and develop influenza vaccine policies in Member States.

1. To update the participants on current global and regional status of seasonal, avian and other influenza viruses of pandemic potential;
2. To review the progress made under the current five-year influenza strategy from 2012-2016 in the Asia-Pacific, and present the Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies (APSED) as a forward strategy for the surveillance of influenza and other emerging diseases;
3. To provide updates on virology; discuss ways to further strengthen detection and characterization of influenza virus; review approaches to anti-viral resistance surveillance; and discuss external quality assessments;
4. To discuss strengthening of reporting, virus tracking and data usage in the Asia-Pacific, including approaches to obtaining the burden of influenza; and
5. To introduce the path from data to influenza vaccine introduction in the Asia-Pacific and share global and regional evidence on protecting pregnant women and infants through influenza vaccination.

Proceedings of the meeting

The meeting was inaugurated by the Senior Advisor to the Regional Director of the WHO Regional Office for South-East Asia, Professor Tjandra Aditama and by Dr Pichet Bunyati, Director General, Department of Clinical Sciences, on behalf of the Ministry of Public Health Kingdom of Thailand.
Dr Pushpa Wijesinghe, Technical Officer Immunization and Vaccines Development of the WHO Regional Office for South-East Asia, provided a brief overview of the objectives and expected outcomes of the meeting. Dr Ian Barr from Australia and Dr Mandeep S Chadha from India were elected co-chairs of the meeting and Ms Michelle McPherson of Australia as rapporteur.

Session A1: Update on the current global and regional status of seasonal, avian and other novel influenza virus subtypes

Global update on seasonal, avian and other novel influenza subtypes.
Dr Julia Fitzner, Medical Officer, Global Influenza Division, WHO headquarters

The global surveillance data for influenza as provided through FluNet was summarised, for both seasonal and non-seasonal strains. Most of the circulating Influenza A and B viruses in both the Northern and Southern Hemisphere influenza seasons were those included in the current influenza vaccine. The vaccine will have the same virus composition for the next Northern Hemisphere season. Contributions of viruses and data by NICs are essential for obtaining a global picture of influenza and to demonstrate the good functioning of GISRS. All NICs were encouraged to share data to allow for better global assessment of influenza.

The Pandemic influenza severity assessment (PISA) was then introduced – a tool that assesses indicators on the transmission, seriousness of disease and impact of influenza at the country level, which can then be combined into a single measure of influenza severity at the regional and global level. Several countries are currently piloting the tool.

Influenza activity in the Southern Hemisphere.
Dr Ian Barr, Acting Director, WHO Collaborating Centre for Reference and Research on Influenza, Peter Doherty Institute for Infection and Immunity, Australia

An overview of the current influenza season in the Southern Hemisphere was provided, focusing on the data from Australia, South Africa, Argentina and Indonesia. The WHO Collaborating Centre has received samples from seven countries since the start of the current influenza season. There has been less influenza activity compared with last year with influenza A/H1N1pdm09 the predominant strain, followed by Influenza B. The majority of the Influenza A/H1N1pdm09 strains are of the 6B.1 Clade, although some 6B.2 Clade has also been observed, mostly in China. The small number of influenza A/H3N2 have been 3C2a virus with no evidence of antigenic variants. Both influenza B types have been circulating, with a slight majority of influenza B/Victoria in most countries. Both the B/Victoria and B/Yamagata strains have been similar to the two influenza B strains included in the quadrivalent influenza vaccine.

NICs were reminded to send influenza samples to WHO Collaborating Centres in time for the September vaccine composition meeting.
Influenza activity in the Northern Hemisphere.
Dr Shinji Watanabe, Chief of Laboratory, WHO Collaborating Centre for Reference and Research on Influenza, National Institute of Infectious Disease, Japan

The last influenza season in the Northern Hemisphere was similar to the 2015 season as influenza A/H1N1pdm09, influenza A/H3 and both influenza B viruses circulated with B/Victoria predominating. Data from the United States, Europe, China and Japan were presented. The WHO Collaborating Centre has received samples from six countries to date.

Similar to the Southern Hemisphere, in the Northern Hemisphere the majority of influenza A/H1N1pdm09 strains were of the 6B.1 Clade and influenza A/H3N2 were mostly 3C2a virus. Both were antigenically similar to the strains included in the influenza vaccine. The influenza B/Victoria were mostly Clade 3 and B/Yamagata were mostly Clade 1A and were therefore antigenically similar to the two influenza B strains included in the quadrivalent influenza vaccine.

Session Discussion

The methodology of PISA was discussed, in particular the alignment of country level estimates to a single global estimate of disease severity. PISA is still in the pilot stage, with thresholds for judging indicators still being developed to ensure that the process is standardised across countries. The final tool is planned to be rolled out in 2017. The current version of the protocol can be shared.

There was also some discussion about the required number of specimens that NICs send to WHO Collaborating Centres. The WHO Collaborating Centre in Melbourne, Australia reported currently receiving about 20 specimens per country per year, but recommended that 50-100 would be better and that clinical samples can be sent. Guidance for selecting specimens for sending to WHO Collaborating Centres included that they be as timely and representative as possible and that any unusual strains be sent immediately. Funds can be provided from WHO to ship these outside the routine seasonal shipments. A protocol for selecting specimens, and how and when they should be sent, was suggested.

SESSION A2: Progress made under five-year influenza plan

Recommendations from the 2015 Bi-Regional NIC Meeting.
Dr Erica Dueger, Medical Officer, Emerging Disease Surveillance and Response, WHO Regional Office for the Western Pacific

The 2011 Bi-Regional Plan for Further Strengthening National Influenza Surveillance: Guiding the way towards Influenza Control Policy and Regional Surveillance was summarised focusing on the actions requested from Member States and WHO from 2012 to 2016. For Member States the plan focused on improving testing capacity via safe laboratory practices and external quality assessments, improving understanding of epidemiology and disease burden through better linking of surveillance and laboratory data, and supporting national efforts for improved reporting, risk communications and policy development. WHO would continue to support NICs, data sharing and use, and support seasonal influenza control policies.
The conclusions and recommendations from the Ninth Meeting of National Influenza Centres and Influenza Surveillance in the Western Pacific and South-East Asia Regions were presented to provide the background for reporting on the progress made against these in the following presentations in the session.

Epidemiology progress made under the five-year biregional plan for further strengthening national influenza surveillance.
Dr Erica Dueger, Medical Officer, Emerging Disease Surveillance and Response, WHO Regional Office for the Western Pacific
Dr Philip Gould, Medical Officer, Influenza and other Emerging Pathogen Surveillance, WHO Regional Office for South-East Asia

The WHO Western Pacific Region’s progress was presented in terms of national surveillance systems, improved reporting at the regional level and improved use of epidemiological data for risk assessments and vaccine policy. Surveys of 21 NICs conducted in 2010 and 2015 showed that surveillance for influenza-like-illness (ILI) has been solidified and maintained, and the 2015 survey also showed that severe acute respiratory infection (SARI) surveillance is occurring in many countries in 2015. Regional reporting has progressed from bi-weekly website updates for both seasonal and relevant influenza viruses with pandemic potential, to the development of a regional dashboard to be launched later in 2016. Epidemiological data has been used for the determination of the burden of influenza with four countries (Mongolia, Laos, Cambodia & Mongolia) trained in the burden of influenza methodology. Cambodia has also piloted the hospital acquisition survey component at the district level. A longitudinal influenza surveillance network, which right-sizes surveillance for influenza, has been launched in two sites in Viet Nam. The data will be used to inform policy development for influenza vaccination within the region.

The WHO South East Asian Region’s progress was presented. There has been an increase in the number of NICs reporting data through FluNet with seven of eight NICs, as well as two additional national laboratories, reporting in 2015 and three NICs reporting to FluID. Several burden of influenza studies have been published from Bangladesh, Thailand, and India, with Indonesia, Bhutan and Nepal in progress. There have been trainings and workshops on data management, clinical management and outbreak response. A regional dashboard is also under development.

Global activities such as the Tool for influenza pandemic risk assessment [TIPRA] and Panstop were also discussed, as well as the need to promote targeted influenza vaccine policies regionally to aid in pandemic preparedness.

Laboratory progress made under the five-year biregional plan for further strengthening national influenza surveillance.
Dr Aparna Singh Shah, Regional Adviser, Health Laboratory Services and Blood Safety, WHO Regional Office for South-East Asia
Dr Frank Konings, Medical Officer, Emerging Disease Surveillance and Response, WHO Regional Office for the Western Pacific

The progress made in laboratory-based surveillance in the WHO South East Asian Region was presented. There are eight NICs, with the national public health laboratories in the three other countries progressing towards becoming NICs. As a result, all 11 Member States can conduct PCR; all
NICs can do virus isolation and are participating in external quality assessments. Five Member States have Biosafety level 3 laboratories with another three updating the biosafety levels of their national public health laboratories. Several trainings have been conducted on laboratory methodologies, quality assessment and the shipment of materials. All Member States have at least 20 certified trainers for the shipment of materials.

A similar review of the progress in laboratory-based surveillance was presented for the WHO Western Pacific Region which has 21 NICs across 15 Member States, three WHO Collaborating Centres and two essential regulatory laboratories. The Influenza Shipping Project has shown an increase in the number of shipments to WHO Collaborating Centres from laboratories in the region. Participation in the global external quality assessment programme has increased over the five years, as has the proportion of laboratories getting a 100% score. There have also been several trainings in virus isolation in molecular techniques, laboratory management, biosafety and shipment processes. Achievements made with laboratory strengthening for influenza have served as a foundation for other emerging infectious diseases, such as Middle East respiratory syndrome and arboviral diseases.

Regulatory capacity in the Asia Pacific region.
Dr Martin Eisenhawer, Scientist, Immunization and Vaccines Development, WHO Regional Office for South-East Asia

Progress made in the regulatory capacity for influenza vaccination in the Asia Pacific region was presented. National regulatory authorities (NRAs) are essential in providing this regulatory capacity and are required for a country to produce prequalified vaccines for UN programmes.

In the WHO South-East Asian Region, an NRA network commenced in 2015 and there are three countries that have functioning NRAs. There have been regional workshops on lot release, collaborative procedures and changes to approved vaccines, as well as assessments in the six PIP countries – Bangladesh, Democratic People’s Republic of Korea, Indonesia, Myanmar, Nepal and Timor-Leste. In the WHO Western Pacific Region there has been a NRA network since 2011, with seven countries having a functioning NRAs - five that produce prequalified vaccine.

Asia Pacific strategy for emerging diseases and public health emergencies (APSED III) and influenza.
Dr Frank Konings, Medical Officer, Emerging Disease Surveillance and Response, WHO Regional Office for the Western Pacific

The Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies (APSED III) was presented: how it was developed, the guiding principles, and changes from the previous Asia Pacific Strategy for Emerging Diseases (APSED 2010), objectives and focus areas. In APSED III there is increased emphasis on prevention; risk mitigation and response; ability to be flexible and address novel and unexpected threats; the Incident Management System; and wider context of health system strengthening and global goals. Several focus areas and how they relate to influenza were highlighted: surveillance; risk assessment and response which uses multiple sources of information for risk assessment to inform timely decision making and response; and laboratory capacity building which will focus on new diagnostic technologies, functionality and also linkages with non-emerging infectious disease hazards; zoonoses which will continue to stress the importance of multi-sectoral approach; and regional preparedness, alert and response.
Session Discussion

Conducting joint risk assessments between human and animal health was discussed with both WHO Regions and was highlighted as a priority.

Strategies for maintaining laboratory staff was discussed and included increasing work benefits and motivation through regular trainings and international opportunities; ensuring adequate specimens for testing and working with Member States to increase the understanding of the benefits of having good laboratory staff.

Session B1: Laboratory: external quality assessments and antiviral resistance surveillance

CDC real-time RT-PCR for influenza: updates and support strategies.
Dr Stephen Lindstrom, Team Lead, Diagnostics Development Team, Virus Surveillance and Diagnosis Branch, Centers for Disease Control and Prevention, United States

A summary of the reagent kits for influenza that have been distributed from the US Centers for Disease Control and Prevention (US CDC) was presented. An updated influenza A/H5 kit and a modified influenza A subtyping kit which covers variant H1N1pdm09 are now available.

The US CDC international quality assessment for seasonal influenza was also described which is conducted for those countries that have cooperative agreements with US CDC. In 2014 there were 49 countries that participated, eight from the WHO South-East Asian and Western Pacific Regions, with seven obtaining the required 80% pass rate.

Global external quality assessment programme.
Dr Janice Lo, Consultant Medical Microbiologist, Public Health Laboratory Centre Department of Health, Hong Kong, SAR China

An overview of the global external quality assessments for influenza including the composition of each of the annual panels from 2007 were presented. Three good laboratory practice surveys have also been conducted. Highlights from the 2015 panel, as published in the WHO Weekly Epidemiological Record, were summarised. Laboratories from WHO South-East Asia and Western Pacific Regions have been performing well in the global external quality assessments overtime compared with the overall average. The results from the 2016 panel are currently being finalised.

Introduction of the virus isolation external quality assessment.
Dr Patrick Reading, WHO Collaborating Centre for Reference and Research on Influenza, Peter Doherty Institute for Infection and Immunity, Australia

The new external quality assessment for virus isolation which aims to assess methods for virus isolation and the level of virus growth was introduced. NICs in both the WHO South-East Asian and Western Pacific Region have been approached to participate; 22 have so far agreed. The panel will comprise 16 samples and the temperature of the samples tracked to ensure they are not affected by the shipping mechanism. The data collection tables were presented, which should be returned to the WHO Collaborating Centre in Australia within two months of receipt. The panel is currently being validated by the WHO Collaborating Centres in China and Japan and will be sent to participating NICs shortly.
Surveillance of oseltamivir resistant strains of influenza in Thailand.

Ms Malinee Chittaganpitch, Chief, National Influenza Center and Respiratory virus section, National Institute of Health, Department of Medical Sciences, Thailand

The Thai surveillance system for oseltamivir resistant strains of influenza was presented, including the antiviral resistance testing algorithms used, the data reported from 2009 to 2016, and the challenges encountered. The proportion of tested samples that were resistant ranged from 0 to 1.8% per year. The data collected does not include the treatment status of the patient, however for every positive result, the hospital is followed up to determine treatment status. All positive cases presented were collected before treatment.

Session Discussion

The role of the US CDC in providing reagent kits was clarified as being between 2500 to 3000 reagents kits per NIC per year and that if more are needed then justification is required.

There was some discussion on virus isolation and the reasons for not being able to isolate virus from samples. It was commented that dry swabs may not be as effective for virus isolation, and therefore if the proportion of positive virus isolation decreases, the use of dry swabs should be investigated as a possible reason for the decrease.

Session B2: Epidemiology


Dr Jude Jayamaha, Consultant Medical Virologist and Head, National Influenza Centre Medical Research Institute, Sri Lanka

The Sri Lankan influenza surveillance system was presented. The surveillance data showed an increase in the number of ILI cases reported from sentinel sites in January 2015. Laboratory surveillance indicated that most cases were due to influenza A/H1N1pdm09, with influenza B/Yamagata remaining at baseline levels. There were no clusters reported, but all provinces of the country were affected. There was a high proportion of cases reported in pregnant women; deaths were associated with being female and having comorbidities. Recommendations included increasing influenza vaccination for pregnant women, providing information for all sectors and developing an outbreak management plan.

Influenza surveillance and detection of novel influenza virus in Bangladesh.

Dr Mahmadur Rahman, Former Director, Institute of Epidemiology, Disease Control and Research, Bangladesh

The Bangladeshi influenza surveillance system comprises: hospital based influenza surveillance in 12 tertiary level hospitals; national influenza surveillance at 10 district hospitals; community based influenza surveillance in an urban location of capital of Bangladesh; high risk group surveillance of avian influenza which follows-up contacts of positive cases; wet market surveillance for H5N1 in Dhaka City in six markets; and event based surveillance comprising a 24/7 hotline, media monitoring and other informal reporting. There is also web based integrated disease surveillance and cell phone based surveillance comprising interviews of randomly selected cell phones three times a year.
**HxNy: Human infections with avian influenza viruses - a regional perspective.**  
*Dr Erica Dueger, Medical Officer, Emerging Disease Surveillance and Response, WHO Regional Office for the Western Pacific*

An overview was provided on the influenza viruses with pandemic potential that arise from the human-animal interface. Recent activity presented included influenza A/H5N1 and A/H7N9, four additional influenza A viruses in birds and two of swine origin which are variants of influenza A/H3N2 and A/H1N1. As there will be ongoing contact between animals and humans, further new HxNy strains with pandemic potential are likely. Therefore, continued active early detection through regional event based surveillance, followed by rapid risk assessment, is paramount. In addition, rapid containment experience through exercises such as Panstop and improved seasonal influenza vaccine distribution that can be scaled up during pandemics, should continue to ensure pandemic preparedness.

**Developing influenza surveillance in Timor-Leste.**  
*Ms Maria Angela Varela Niha, Head, Surveillance and Epidemiology Department, Ministry of Health, Timor-Leste*  
*Mr Ismael Salvador da Costa Barreto, Executive Director, National Laboratory of Health Ministry of Health, Timor-Leste*

Timor-Leste’s surveillance capacity both for indicator-based and sentinel surveillance was presented. The indicator based system collects data on pneumonia in those aged less than five years. There are five sentinel sites for SARI in community health centres in Dili and one ILI sentinel site in the national referral hospital, that collect data on the number of cases, but do not collect samples for laboratory testing as yet.

The laboratory capacity of Timor Leste for influenza was then presented. The molecular laboratory was established in 2011 and has the infrastructure to conduct real time PCR, but has not done any testing for influenza as yet. Testing for other pathogens, such as chlamydia, gonorrhoea and HIV, is being done. Currently the priorities are for procuring reagents for influenza testing and training staff.

**Session Discussion**

There was discussion about the effectiveness of conducting exercises for rapid containment practice. Countries that had participated in such exercises commented that it was useful especially for improving early detection, risk assessment and rapid containment and did assist with the real-life detection of clusters of influenza A/H5N1. These exercises were also effective at the regional level.

**Session C: Pandemic Influenza Preparedness Framework**

**Update on the Pandemic Influenza Preparedness Framework.**  
*Dr Paul Rogers, Project Manager, Pandemic Influenza Preparedness Secretariat, Department of Health Security and Emergency Response, WHO Headquarters*

The Pandemic Influenza Preparedness (PIP) Framework’s development and purpose were described, including the partnership contribution and the objective to improve pandemic preparedness and response. The five priority areas of work and their reporting indicators were detailed: (1) Laboratory and surveillance capacity building; (2) Burden of disease; (3) Regulatory capacity building; (4) Risk
communication; and (5) Planning for deployment. Of these, ‘Laboratory and surveillance capacity building’ is led by the WHO Regional offices and the other areas by WHO Headquarters. Countries were selected for PIP support based on a gap analysis.

Discussion

Clarifications regarding any requirements for PIP countries for continued funding, the validation process for country reporting and the components of the framework that could be included for seasonal influenza were sought. Assessments presented at the country level, as well as at the regional level, were suggested to highlight the improvements made at the country level that are diluted by regional analysis.

Session D: Strengthening Reporting and Virus Tracking

Influenza Virus Tracking Mechanism (IVTM).
Dr Julia Fitzner, Medical Officer, Global Influenza Division, WHO headquarters
Ms Michelle McPherson, Consultant, WHO Regional Office for South-East Asia

The Influenza Virus Tracking Mechanism (IVTM) was developed to increase the transparency of GISRS activities in the sharing of PIP biological materials. The different components of the website were shown including the geotrace map, search menus, data entry, available data for public users and the derivation trees. The shipment process was then described including the Standard Material Transfer Agreement (SMTA) 1 for GISRS laboratories and the SMTA2 for non-GISRS laboratories. It was emphasised that all GISRS laboratories should register shipments of human samples infected with influenza viruses of pandemic potential made within and outside GISRS.

The data available on the IVTM website for the WHO South-East Asian and Western Pacific regions was presented. Four WHO South East Asian Region countries and nine Western Pacific Region countries and areas have specimens on the IVTM from countries that have had outbreaks of influenza viruses with pandemic potential. The majority of samples from both regions was influenza A/H5N1, followed by influenza A/H7N9. Most shipments recorded on the IVTM were from NICs to WHO Collaborating Centres or WHO Collaborating Centres to non-GISRS laboratories.

A survey on the IVTM that was distributed to the NICs in the South-East Asian and Western Pacific Regions and all WHO Collaborating Centres was completed by 14 NICs and three WHO Collaborating Centres. Half of the 14 NICs that responded to the survey had not heard of the IVTM, although most either knew or were able to guess its purpose. Nine of the ten NICs that responded thought that the IVTM was useful for reasons such as the ability to record and track global influenza virus shipments and to get samples for research.

FluNET, FluID, FluMART.
Dr Bikram Maharjan, Consultant Data Manager, WHO headquarters

A brief overview of the data collection platforms for influenza at the global level as managed by the Global Influenza Program at WHO headquarters was presented, including FluNet for virological surveillance data, FluID for epidemiological data and the FluMart platform which comprises both.
Member States can either enter data into FluNet and FluID through online forms or by uploading excel spreadsheets through FluMart. All data is then made available through each platform.

Regional influenza dashboards.

Ms Sarah Hamid, Technical Officer – Monitoring and Evaluation, Emerging Disease Surveillance and Response, WHO Regional Office for the Western Pacific

Dr Philip Gould, Medical Officer, Influenza and other Emerging Pathogen Surveillance, WHO Regional Office for South-East Asia

The influenza dashboard for WHO Regional Office for the Western Pacific includes data from FluNET (virological), FluID (epidemiological), IHR notifications (human infections with avian influenza) and other information. Data is obtained directly from these systems, with no additional data entry required from Member States. The features demonstrated of the website which included a regional overview, country comparisons and the countries reporting data for both seasonal influenza and avian influenza. Country profiles provide a summary of influenza surveillance in that country, as well as the virological and epidemiological surveillance data. All the dashboards on the site can be downloaded. Testing of the dashboard is currently underway.

The regional dashboard under development at the WHO Regional Office for South-East Asia. The data is also directly extracted from the global platforms similar to the WPRO website. The features of the website were also demonstrated, and included virological and epidemiological data at regional and country levels.

Seasonal influenza trends: 10 years in the Western Pacific.

Ms Leila Bell, Emerging Disease Surveillance and Response, WHO Regional Office for the Western Pacific

An overview of seasonal influenza data from the WHO Western Pacific region for 2006-2015, including data from repeat surveys of NICs and from FluNet. The proportion of cases of ILI, the proportion positive of tested samples and influenza subtypes. Recommendations were made for the inclusion of an analysis of trends of HxNy and in-patient hospitalization data in the region and for more frequent publication.

Session Discussion

There was discussion on the IVTM to clarify which viruses should be entered, how the IVTM would be used in a pandemic and its completeness. Whether the IVTM had already met its purpose was also discussed.

Clarification was sought regarding the data entry requirements for FluNet, FluID and FluMart and whether there was any validation of the data entered. Although there are inbuilt validation checks against standard formats in both systems, there is no validation that the data that is entered is correct.

A similar publication on influenza data for the WHO South-East Asia region was suggested.
**Session E: Strengthening data usage: Burden of Influenza**

*Global burden of influenza – report from recent meeting.*  
*Dr Julia Fitzner, Medical Officer, Global Influenza Division, WHO headquarters*

The three recent global meetings held in July 2016 on the burden on influenza were presented: a meeting of experts on the global mortality burden, the sharing of national burden estimates and a workshop on scientific writing for influenza burden studies. The current estimate for the global burden of influenza mortality is 150,000 to 530,000 influenza deaths per year.

The national burden estimates meeting comprised 108 participants from 53 countries with 44 posters and 12 presentations on national estimates presented. At the workshop mentors were assigned to countries to assist with the publication of influenza burden studies and a special issue in the Influenza and Other Respiratory Viruses journal for influenza burden studies was announced.

*Economic Burden Manual and use in selected countries.*  
*Dr Raymond Hutubessy, Technical Officer, Initiative for Vaccines Research, WHO headquarters*

The WHO *Manual for estimating the economic burden of seasonal influenza* provides a step-by-step guide for low and middle income countries in determining the costs of influenza. During 2015 the manual was piloted in nine countries, including Mongolia, Lao People’s Democratic Republic and Indonesia and will be available from August 2016 for all other countries to access and use. The guidelines *How to implement influenza vaccination in pregnant women* was also presented.

**Session Discussion**

There was discussion on the validity and usefulness of economic burden studies that use one year of data considering the variability of influenza seasons. The manual does provide guidance on how to present and explain the results from the one year analysis.

There was a request that immunization program colleagues attend the annual NIC meeting, especially when assessments of vaccination policies are discussed.

There was some discussion that the data required by the WHO *Manual for estimating the burden of influenza* is not always available in countries making the process difficult. It was mentioned that some countries have changed their surveillance systems for this reason, which is seen as an ancillary benefit of the manual.

**National efforts towards determining burden of influenza - Panel discussion: Bhutan, Indonesia, Nepal and Cambodia**

*Bhutan: Ms Michelle McPherson, on behalf of Bhutan Royal Centers for Disease Control, Thimphu, as well as Karen Siener and Katherine Rogulski, of the US Centers for Disease Control and Prevention, and Dr. Philip Gould of the WHO SEARO*

Bhutan’s efforts to determine the best method for calculating the catchment population for a burden of influenza estimate were presented including a hospital chart review at four hospitals in 2016 which showed that the current residence of patients was not reliably collected. Therefore, it
was concluded that a hospital admission survey would not be useful. A health utilization survey (HUS) was also considered by adding a section to the national household survey conducted by the Ministry of Health, through the local health centers on an annual basis. Although the survey does not currently ask about health care utilization practices with regard to hospitalizations or respiratory illness, an additional module might be able to be added which could be used to calculate hospital catchment areas in the future. It was therefore decided to use district populations for the current burden estimate, as the catchment areas for district hospitals, including seven of the 11 districts with sentinel SARI sites, has only one hospital.

Indonesia: Dr Masri Sembiring Maha, Epidemiologist, Center for Biomedic and Basic Health Technology Ministry of Health, Jakarta

Three of the six SARI sentinel sites in Indonesia provided data to form a burden of influenza estimate, conducted over a three month period in 2014. They first identified the area where the majority of the cases seeking care at the SARI sentinels reside (≥80%) and then identified all hospitals within this area. Using hospitalization data for SARI they calculated the proportion of cases from each hospital and then extrapolated the population to the proportion from the sentinel site. Challenges identified included that the estimates only included three sites, the population was from 2010, the study was conducted in a limited time frame (1 year) and may not be representative of the Indonesian population because these sites represent <50% of the country population.

Nepal: Dr Kedar Prasad Baral, Professor of Public Health Patan Academy of Health Sciences, Kathmandu

A summary of the influenza surveillance system in Nepal was presented including the ILI positivity and seasonality for Patan Hospital and Palung. The burden of influenza was also briefly presented, using the entire district population as the denominator.

Cambodia: Dr Ly Sovann Director, Department of Communicable Disease Control, Ministry of Health Phnom Penh

The pilot hospital admission survey conducted in Svay Rieng province in Cambodia was presented. There were eight hospitals in the province where all respiratory admissions were counted, to determine the proportion attending Svay Rieng Provincial Hospital. This proportion was then applied to the population data by age group to calculate burden of severe influenza in Svay Rieng. Challenges included that there were more cases reported in the surveillance system compared to that found in the chart review, data quality and availability variables in the hospital charts, getting access to private hospitals and the differences in the two sources of population estimates.

Discussion: lessons learnt

In the panel discussion that followed there were several lessons learnt presented:

- Difference data sources provide different burden estimates, therefore selecting the right data sources can be difficult and may require adjustments to existing systems.
- The chart reviews were time consuming, especially if the hospitals used paper based systems. It was estimated that one month was required for the chart review if the records are computerised, but five months if they were paper based.
• Preparation for the chart reviews was also time consuming, with one month lead time required for organising the hospital visits.
• The hospitals need to be part of the assessment and provided with the type of data and/or charts that are required prior to the visit. Hospital staff should also be available during the chart review process.
• Other records, such as billing records, may also be required from the hospital, as they can have more complete for demographic information.
• HAS was considered easier than a HUS as it was thought that the data would be more readily available in a hospital compared to conducting a survey of 500 households.

Additional discussion: other efforts for estimating burden of influenza

Bangladesh has also conducted a burden of influenza study using a hospital admission survey and used the population from these catchment areas for the calculations.

India has also conducted burden of influenza estimates at two sites. As there was demographic surveillance ongoing at these sites, then this was used for the catchment population denominator.

Session F1: Scientific session 1

Tool for influenza pandemic risk assessment.
Dr Gina Samaan, Consultant, Global Influenza Program, WHO headquarters

The new global Tool for influenza pandemic risk assessment (TIPRA) determines the hazard risk assessment for influenza viruses of pandemic potential by evaluating the likelihood and impact of each influenza viruses of pandemic potential. There are 11 indicators that are scored by experts to produce an overall risk characterization. The benefits of TIPRA are that it can be done quickly and systematically, the risk of different viruses can be compared and it enables risk characterization despite gaps in information. It also includes a measure of confidence in the risk characterization. TIPRA was launched in May 2016.

Animal-human interface and challenges in detecting avian influenza.
Dr Stacey Schultz-Cherry, WHO Collaborating Center for Studies on the Ecology of Influenza in Animals, Department of Infectious Disease, St. Jude Children’s Research Hospital, United States

A comprehensive summary of animal surveillance for influenza globally was presented, as well as several studies currently being conducted at the WHO CC Memphis focused on the animal-human interface across all WHO regions. The aim of these studies is to determine which influenza viruses detected in animals could cause human illness. There are many challenges in testing animals for influenza, and then determining whether the influenza strains found in animals would be pathogenic for humans.
SARI and coordinated influenza surveillance in Viet Nam.
Dr Nguyen Le Khanh Hang, Deputy Head, Virology Department, National Institute of Hygiene and Epidemiology, Viet Nam

SARI surveillance in Viet Nam was presented, comprising five sentinel sites in the north and six in the south. The Longitudinal influenza surveillance network (LISN) in two additional sites near the border with China in the north and Cambodia in the south has also commenced. LISN activities include expanding influenza virus characterization from human and animal positives, testing existing specimens for other viruses with epidemic and pandemic potential and sharing outputs across sectors for joint situation analysis and risk assessment.

Session Discussion

There was discussion regarding the difference between TIPRA and the US CDC tool that it is based on. Although the process is similar, there are differences in the content of some of the indicators and the weighting of the scores. However, the overall score from both tools should indicate a similar risk.

Session F2: Scientific session 2

Influenza: Contribution of the National Institute of Virology, India in recent years.
Dr Mandeep Chadha, Scientist, National Institute of Virology, Pune, India

The history of the Indian NIC in Pune from 2003 to present was summarized, including virological surveillance, virus characterization, outbreak investigations and antiviral resistance surveillance. More than 600 isolates have been submitted to WHO Collaborating Centres and data is entered into FluNet. A vaccination program was introduced in for pregnant women, although it has a low uptake rate.

Recent advances in influenza laboratory diagnostics.
Dr Aeron Hurt, Acting Deputy Director, WHO Collaborating Centre for Reference and Research on Influenza, Peter Doherty Institute for Infection and Immunity, Australia

Recent advances in laboratory diagnostics have included virus neutralisation assays to overcome problems in using haemagglutination-inhibition for influenza A/H3N2 viruses, new phenotypic neuraminidase activity assays to determine resistance to oseltamivir, commercially available detection assays and next generation sequencing. Before purchasing new diagnostics tests, the cost of equipment, costs of ongoing use (consumables), expertise of staff needed, reliability, likelihood for continued production, support from company or another laboratory (i.e. WHO Collaborating Centre) should all be considered. It can also be useful to wait for new technologies to become established and well utilized before purchasing.

What should be considered when establishing influenza antiviral resistance testing?
Dr Aeron Hurt, Acting Deputy Director, WHO Collaborating Centre for Reference and Research on Influenza Peter Doherty Institute for Infection and Immunity, Australia

Five broad questions to consider before implementing antiviral resistant surveillance include: (1) Which drugs are being used in your country/region? (2) Do you have a pandemic stockpile of
antivirals? (3) What samples will you be testing? Surveillance versus hospital patients; (4) What is the current level of resistance in circulating strains? and (5) Will other laboratories be testing strains from your region for resistance? The most appropriate methodology for antiviral susceptibility testing will differ for different labs with the choice of methodology based on various factors such as whether the testing is for treated patients or community samples, resources, budget and staff expertise.

Session Discussion

Reasons for the low uptake of the influenza vaccination in India despite it being free was queried, this was thought to be due to the vaccine being offered free through public doctors whereas most pregnant women see private doctors.

Short unscheduled presentation

Dr Gina Samaan gave a short presentation regarding the upcoming 70th anniversary of the Global Influenza Program in 2017 and some options for celebrating this milestone. This included a global NIC meeting, WHO book on influenza, sharing the influenza research agenda and events at relevant international conferences. There will also be a special edition of influenza in Science journal, an influenza google doodle, as well as a competition for the GISRS and anniversary logo. Any institutes wanting to hold events can contact the Global Influenza Program at WHO headquarters for support.

Session G1: Influenza vaccine – Protecting pregnant women and infants

The Asia Pacific road: from data to national influenza vaccines.
Dr Temitope Folaranmi, Consultant, Emerging Disease Surveillance and Response, WHO Regional Office of the Western Pacific

Dr Pushpa Wijesinghe, Technical Officer, Immunization and Vaccines Development, WHO Regional Office for South-East Asia

An update on the status of influenza vaccination in the WHO Western Pacific Region was based on a survey conducted in 2011 and the WHO/UNICEF Joint Reporting Process. Currently 75% of Western Pacific Region Member States reported that they have a policy or recommendations for the use of seasonal influenza vaccine. Countries with a seasonal influenza vaccination program and the capacity to produce, distribute and encourage vaccine uptake will be better prepared for a pandemic and more likely to expand manufacturing capacity for influenza vaccine, and develop surge capacity, implement a vaccination program that rapidly administers vaccine to priority groups and communicate effectively with the public, health care providers, community leaders, and the media to improve acceptance.

The status of seasonal influenza vaccination in the WHO South-East Asia Region was then summarised. In 2014 there was a regional recommendation that Member States develop national policies for seasonal influenza vaccination for high-risk groups. Currently there is one country with a national vaccination policy for seasonal influenza – Thailand, and this is funded by their universal health coverage programme. They are currently expanding their capacity for seasonal influenza vaccine manufacturing.

18
Reason for countries not having a seasonal influenza vaccination policy include competing, new and underutilised vaccines, the higher cost of influenza vaccine, difficulty of influenza vaccination timing due to its seasonality, lack of funding and no strong Strategic Advisory Group of Experts (SAGE) on Immunization recommendation for maternal vaccination. WHO will continue to support the introduction of seasonal influenza vaccination programs in the region.

**Vaccine in pregnant women – Lao Peoples Democratic Republic.**
*Dr Phengta Vongphrachanh on behalf of Dr Anonh Xeuatvongsa, Manager, National Expanded Programme on Immunization, Lao People’s Democratic Republic*

The development of the Lao seasonal influenza vaccination program was summarized including influenza surveillance data for ILI and SARI. Lao Peoples Democratic Republic was the first low income country to introduce seasonal influenza vaccine, and did so through a public-private partnership. Priority populations for vaccination include pregnant women, chronically ill, the elderly and health care workers. In 2016, there were 49,000 vaccine distributed in all provinces with a 98% administrative coverage reported. The Ministry of Health is moving towards financial sustainability with its co-finance contribution increasing.

An assessment of influenza vaccine on pregnant women and infants in Lao Peoples Democratic Republic was then presented. Of the 5103 women enrolled, 43 per cent were vaccinated, and these vaccinated women were less likely to have an infant born preterm. This provided indirect evidence of influenza vaccine safety during pregnancy.

**Vaccine in pregnant women – Global Perspective.**
*Dr Saad Omer, William H. Foege Professor of Global Health Professor of Epidemiology and Pediatrics Emory University, United States*

The available evidence of influenza vaccination in pregnant women includes a randomised controlled trial (RCT) conducted in Bangladesh in 2008 and a three country RCT in Mali, Nepal and South Africa which was recently conducted, all which showed reduction in influenza in both the mothers that were vaccinated and their infants. A United States study in 2016 also showed reductions in ILI, hospitalised ILI, laboratory-confirmed influenza and hospitalised laboratory-confirmed influenza for infants of vaccinated women. Several studies conducted in Western Australia have shown a reduction in stillbirths and in infant and mother hospitalizations if the mother is vaccinated and that vaccination in third trimester is more effective. Dr Saad emphasised that the evidence presented needs to be considered in terms of location specific nuances including seasonality and the baseline rates of outcomes of interest.

**Session Discussion**

There was some discussion on the acceptance of influenza vaccine by pregnant women, as the target of 50% vaccination has not been met anywhere.

It was reported that women tend to silo the risk and benefits of vaccination into three: themselves, the foetus and the newborn and that strategies that focus on the foetus are more successful. It was also reported from Thailand that there are operational issues that make pregnant women more difficult to vaccinate than the elderly and those with chronic illness including no vaccine distribution.
to antenatal clinics and low awareness of the vaccination by antenatal doctors. There is also no vaccination section on the pregnancy health record which may prompt vaccination.

Session G2: Influenza vaccine – Protecting pregnant women and infants (cont.)

Number of influenza cases averted in pregnant women through immunization in Thailand, 2009-2013.  
Dr Wanitchaya (June) Kittikraisak, Epidemiologist, Thailand MOPH – U.S. CDC Collaboration, Thailand

The first study to assess the impact of the influenza vaccination program on pregnant women in Thailand demonstrated through modeling that 984 cases with four hospitalizations in women and 1079 cases with 16 hospitalizations in infants were avoided as a result of the vaccination program with a coverage of only 1%. The influenza vaccination program is conducted during May to July and has included pregnant women from second trimester onwards since 2009. There are 3.1 million vaccines in the program per year with 1% coverage in pregnant women. These results were then modelled against several scenarios of increasing vaccination coverage and length of vaccination program. The optimal vaccination coverage was determined to be 50%, with a three month vaccination campaign.

Influenza vaccine prequalification.  
Dr Martin Eisenhawer, Scientist, Immunization and Vaccines Development, WHO Regional Office for South-East Asia

The WHO Prequalification team is a service provided to United Nations (UN) purchasing agencies which provides independent advice on the quality, safety and efficacy of vaccines for purchase, i.e. to “prequalify” vaccines for distribution through UN programs. The process for having a vaccine prequalified was described. Seven countries are currently prequalified for the seasonal influenza vaccinations in the WHO South-East Asian and Western Pacific regions.

Session Discussion

There was discussion about the situation where a vaccine was not licensed in its country of origin but may be required elsewhere, for example during a pandemic. There is a fast track procedure for prequalification for such emergency situations which run in parallel with national regulation processes and one provision in Europe that allows for this situation.
Conclusions and recommendations

Conclusions

1) Influenza remains important in the Asia-Pacific region due to the impact of seasonal influenza in high risk groups and the ongoing threat of influenza viruses with pandemic potential.

2) Laboratory capacity for the detection and isolation of influenza viruses; timely sharing of isolates and specimens; and participation in external quality assessments (EQA) are essential.

3) Influenza surveillance, laboratory and GISRS networks in the Asia-Pacific region continue to play a critical role in laboratory diagnostics, vaccines, antiviral susceptibility and risk assessment for policy and decision-making.

4) Regional dashboards, when implemented, will play a useful role in sharing of epidemiology and laboratory surveillance data which contributes to global influenza updates and systematic risk assessments.

5) Using data generated by sentinel surveillance for Severe Acute Respiratory Infections (SARI), Member States have progressed in efforts to quantify and describe the burden (including economic burden) of influenza.

6) Use of data generated through epidemiology and laboratory surveillance to guide vaccination strategies for the prevention of influenza, especially for high risk populations such as pregnant women and young children, should be encouraged.

7) Greater coordination and sharing of data and information between national influenza centres (NICs), surveillance networks, immunization programs, National Immunization Technical Advisory groups, and policy makers is needed in Member States.

8) The Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies (APSED) is a useful strategy to enhance influenza surveillance and response going forward.

Recommendations

Recommendations for Member States

1) Continue to strengthen influenza surveillance systems, sharing of national epidemiology and laboratory surveillance data, and use of surveillance data in risk assessment and decision-making.

2) Continue with burden of influenza (including economic burden) estimation efforts and the sentinel surveillance systems on which they are based.

3) Continue to strengthen/maintain laboratory capacity for the detection of influenza viruses and ensure laboratory quality through participation in external quality assessments (EQA).

4) Ensure influenza viruses of pandemic potential are shared by NICs with WHO CCs and relevant reference centres for confirmation and further characterization; and use the Influenza Virus Traceability Mechanism (IVTM) where appropriate.

5) Encourage the use of data and collaborations between surveillance networks, immunization programs and policy makers to guide vaccination strategies or support the development of influenza vaccination policy.

6) Continue to align influenza surveillance activities with the Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies (APSED).
Recommendations for WHO

1) Continue to support Member States to strengthen influenza epidemiology and laboratory surveillance and networks, including influenza burden estimation activities.

2) Promote the sharing of regional influenza surveillance data through regional influenza surveillance dashboards, global platforms and publications.

3) Support Member States through their NICs and national influenza laboratories to maintain laboratory quality; encourage influenza virus detection, isolation, characterization and sharing; and the use of IVTM for influenza viruses of pandemic potential.

4) Expand the name of the annual meeting to the *Biregional meeting of National Influenza Centres/Programmes in the WHO South-East Asia and Western Pacific Regions*

5) Coordinate the integration of influenza surveillance activities into the *Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies (APSED)*.
### Annex 1: Agenda

#### DAY 1: Monday, 25 July 2016

<table>
<thead>
<tr>
<th>Time</th>
<th>Section</th>
<th>Details</th>
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<tbody>
<tr>
<td>08:00 – 08:30</td>
<td>REGISTRATION</td>
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<tr>
<td>08:30 – 09:30</td>
<td>INAUGURAL SESSION</td>
<td>- Inaugural message by Delivered by: Dr Aditama</td>
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<td>- Regional Director, WHO/SEARO Senior</td>
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<td>- Address by Ministry of Public Health Dr</td>
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<td>- Kingdom of Thailand Director General</td>
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<td>- Objectives and Agenda Dr Pushpa Wijesinghe</td>
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<td>- Introduction of participants Technical Officer</td>
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<td>- Nomination of Chairs and Rapporteur Immunization and Vaccines Development</td>
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<td>- Administrative announcements WHO/SEARO</td>
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<td>- Group photograph</td>
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<td>09:30 – 09:50</td>
<td>COFFEE BREAK</td>
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<td>09:50 – 11:10</td>
<td>SESSION A1: Update on the current global and regional status of seasonal, avian and other novel influenza virus sub-types</td>
<td>- Global update on seasonal, avian and other novel influenza sub-types Dr Julia Fitzner Medical Officer Global Influenza Division, WHO/HQ</td>
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<td>10:10 – 10:30</td>
<td>Influenza activity in the Southern Hemisphere</td>
<td>- Dr Ian Barr Acting Director WHO Collaborating Centre for Reference and Research on Influenza (VIDRL) Peter Doherty Institute for Infection &amp; Immunity, Australia</td>
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<tr>
<td>Time</td>
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| 10:30 – 10:50 | Influenza activity in the Northern Hemisphere                                    | Dr Shinji Watanabe
Chief of Laboratory
National Institute of Infectious Disease Japan |
| 10:50 – 11:10 | Discussions                                                                      |                                                                              |
| 11:10 – 13:00 | **SESSION A2: Progress made under 5 year influenza strategy**                     |                                                                              |
| 11:10 – 11:20 | Recommendations from the 2015 Bi-Regional NIC Meeting                             | Dr Erica Dueger
Medical Officer
Emerging Disease Surveillance and Response, WHO/WPRO |
| 11:20 – 11:40 | Epidemiology progress made under the 5-year bi-regional influenza strategy       | Dr Erica Dueger, WHO/WPRO
Dr Philip Gould
Medical Officer
Influenza and other Emerging Pathogen Surveillance, WHO/SEARO |
| 11:40 – 12:00 | Laboratory progress made under the 5-year bi-regional influenza strategy         | Dr Aparna Singh Shah
Regional Adviser
Health Laboratory Services and Blood Safety, WHO/SEARO |
|                |                                                                                  | Dr Frank Konings
Medical Officer
Emerging Disease Surveillance and Response, WHO/WPRO |
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<td>12:00 – 12:20</td>
<td>Regulatory capacity in the Asia Pacific region</td>
<td>Dr Martin Eisenhawer</td>
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<td>12:20 – 12:40</td>
<td>Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies (APSED III) and Influenza</td>
<td>Dr Frank Konings, WHO/WPRO</td>
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<td>12:40 – 13:00</td>
<td>Discussions</td>
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<td>13:00 – 14:00</td>
<td>Lunch Break</td>
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<td>14:00 – 15:40</td>
<td>SESSION B1: Laboratory: EQAS and Antiviral Resistance surveillance</td>
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<td>14:00 – 14:20</td>
<td>Difficulty detecting recent A/H1N1pdm09 isolates &amp; RT PCR support</td>
<td>Dr Stephen Lindstrom</td>
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<td>Team Lead</td>
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<td>Diagnostics Development Team, Virus Surveillance and Diagnosis Branch, Centers for Disease Control and Prevention, USA</td>
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<td>14:20 – 14:40</td>
<td>Global External Quality Assurance Programme (EQAP)</td>
<td>Dr Janice Lo</td>
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<td>Consultant Medical Microbiologist</td>
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<td>Public Health Laboratory Centre</td>
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<td>Department of Health, Hong Kong, SAR China</td>
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<td>14:40 – 15:00</td>
<td>Introduction of the virus isolation EQAS program</td>
<td>Dr Patrick Reading</td>
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<td>WHO Collaborating Centre for Reference and Research on Influenza (VIDRL) Peter Doherty Institute for Infection &amp; Immunity, Australia</td>
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<td>15:00 – 15:20</td>
<td>Surveillance of oseltamivir resistant strains of influenza in Thailand</td>
<td>Ms Malinee Chittaganpitch</td>
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<td>National Influenza Center and Respiratory virus section</td>
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<td>COFFEE BREAK</td>
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<td>16:00 – 17:40</td>
<td>SESSION B2: Epid</td>
<td><strong>An influenza outbreak in Sri Lanka</strong></td>
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<td>Dr Jude Jayamaha</td>
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<td>Consultant Medical Virologist</td>
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<td>Head, National Influenza Centre</td>
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<td>Medical Research Institute, Sri Lanka</td>
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<td>16:00 – 16:20</td>
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<td>**Influenza surveillance and detection of novel influenza virus in Bangl</td>
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<td>Institute of Epidemiology, Disease Control and Research (IEDCR), Bangladesh</td>
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<td>16:20 – 16:40</td>
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<td>**HxNy: Human infections with avian influenza viruses - a regional pers</td>
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<td>16:40 – 17:00</td>
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<td><strong>Surveillance – Developing influenza surveillance in Timor-Leste</strong></td>
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<td>Mr Ismael Salvador da Costa Barreto</td>
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<td>Ms Maria Angela Varela Niha</td>
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<td>17:20 – 17:40</td>
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| 17:40 – 18:10 | SESSION C: Pandemic Influenza Preparedness Framework | Update on the Pandemic Influenza Preparedness Framework | Dr Paul Rogers  
Project Manager  
Pandemic Influenza Preparedness  
Secretariat, Department of Health Security and Emergency Response, WHO/HQ |
| 18:00 – 18:10 | Discussions              |                                                 |                                                                                  |
| 18:30 onwards| RECEPTION                |                                                 |                                                                                  |

**DAY 2: Tuesday, 26 July 2016**

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<th>Time</th>
<th>Session</th>
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<tr>
<td>08:00 – 08:30</td>
<td>Coffee/registration</td>
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</table>
| 08:30 – 09:00 | Recap of Day 1          |                                                 | Ms Michelle McPherson  
Consultant – Epidemiology, Australia                                                  |
| 09:00 – 10:40 | SESSION D: Strengthening Reporting and Virus Tracking |                                             |                                                                                  |
| 09:00 – 09:30 | Influenza Virus Tracking Mechanism (IVTM)     |                                                 | Dr Julia Fitzner  
Ms Michelle McPherson                                                                 |
| 09:30 – 09:50 | FLUNET, FLUID, FLUMART  |                                                 | Dr Bikram Maharjan  
Consultant – Data Manager, WHO/HQ                                                    |
| 09:50 – 10:10 | Regional influenza dashboards |                                             | Ms Sarah Hamid  
Technical Officer – Monitoring and Evaluation, Emerging Disease Surveillance and Response, WHO/WPRO |
<p>|              |                          |                                                 | Dr Philip Gould, WHO/SEARO                                                        |</p>
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<tr>
<td>10:10 – 10:20</td>
<td>Seasonal influenza trends: 10 years in the Western Pacific</td>
<td>Ms Leila Bell, Emerging Disease Surveillance and Response, WHO/WPRO</td>
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<td>10:20 – 10:40</td>
<td>Discussions</td>
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<td>10:40 – 11:00</td>
<td><strong>COFFEE BREAK</strong></td>
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<td>11:00 – 12:50</td>
<td><strong>SESSION E: Strengthening data usage: Burden of Influenza</strong></td>
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<tr>
<td>11:00 – 11:20</td>
<td>Global burden of influenza – report from recent meeting</td>
<td>Dr Julia Fitzner, WHO/HQ</td>
</tr>
<tr>
<td>11:40 – 11:50</td>
<td>Discussions</td>
<td></td>
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<tr>
<td>11:50 – 12:50</td>
<td>National efforts towards determining burden of influenza - Panel discussion Bhutan, Indonesia, Nepal and Cambodia</td>
<td>Ms Michelle McPherson, Chairing</td>
</tr>
</tbody>
</table>

**Bhutan:** Ms Michelle McPherson, on behalf of Bhutan Royal Centers for Disease Control, Thimphu

**Indonesia:** Dr Masri Sembiring Maha, Epidemiologist, Center for Biomedic and Basic Health Technology, Ministry of Health, Jakarta

**Nepal:** Dr Kedar Prasad Baral, Professor of Public Health, Patan Academy of Health Sciences, Kathmandu
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Panelists</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:50 – 13:50</td>
<td>LUNCH BREAK</td>
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<tr>
<td>13:50 – 15:10</td>
<td>SESSION F1: Scientific session 1</td>
<td></td>
</tr>
<tr>
<td>13:50 – 14:10</td>
<td>TIPRA global level use</td>
<td><strong>Dr Gina Samaan</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consultant</td>
</tr>
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<td></td>
<td></td>
<td>WHO Global Influenza Program, WHO/HQ</td>
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<tr>
<td>14:10 – 14:30</td>
<td>Animal-human interface &amp; challenges in detecting avian influenza</td>
<td><strong>Dr Stacey Schultz-Cherry</strong></td>
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<tr>
<td></td>
<td></td>
<td>Member</td>
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<td></td>
<td></td>
<td>Department of Infectious Disease</td>
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<td></td>
<td></td>
<td>St. Jude Children’s Research Hospital, USA</td>
</tr>
<tr>
<td>14:30 – 14:50</td>
<td>SARI and coordinated influenza surveillance in Viet Nam</td>
<td><strong>Dr Nguyen Le Khanh Hang</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Deputy Head – Virology Department</td>
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<tr>
<td></td>
<td></td>
<td>National Institute of Hygiene and Epidemiology, Viet Nam</td>
</tr>
</tbody>
</table>
### SESSION F2: Scientific session 2

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Presenter</th>
<th>Affiliation</th>
</tr>
</thead>
</table>
| 15:30 – 15:50  | Influenza: Contribution of the National Institute of Virology, India in recent years | Dr Mandeep Chadha         | Scientist (F)  
National Institute of Virology  
Indian Council of Medical Research, India |
| 15:50 - 16:10  | Recent advances in influenza laboratory diagnostics                       | Dr Aeron Hurt             | Acting Deputy Director  
WHO Collaborating Centre for Reference and Research on Influenza (VIDRL) Peter Doherty Institute for Infection & Immunity, Australia |
| 16:10 – 16:30  | What should be considered when establishing influenza antiviral testing   | Dr Aeron Hurt             |                                                                             |
| 17:00 – 18:30  | Special break out session on Pandemic Influenza Preparedness **Announcements to be made accordingly** |                                                                         |                                                                             |

### DAY 3: Wednesday, 27 July 2016

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Presenter</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00 – 08:30</td>
<td>Coffee/registration</td>
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<tr>
<td>08:30 – 09:00</td>
<td>Recap of Day 2</td>
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</tbody>
</table>
| 09:00 – 10:40  | **SESSION G1: Influenza vaccine – Protecting pregnant women and infants** | Dr Temitope Folaranmi     | Consultant  
Emerging Disease Surveillance and Response, WHO/WPRO |
<p>| 09:00 – 09:25  | The Asia Pacific road: from data to national influenza vaccines - WPRO    |                           |                                                                             |</p>
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker/Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:25 – 09:45</td>
<td>The Asia Pacific road: from data to national influenza vaccines - SEARO</td>
<td>Dr. Pushpa Wijesinghe, WHO/SEARO</td>
</tr>
<tr>
<td>09:45 – 10:05</td>
<td>Vaccine in pregnant women – Lao PDR</td>
<td>Dr Anonh Xeuatvongsa, National Expanded Programme on Immunization (EPI) Manager for Lao People’s Democratic Republic</td>
</tr>
<tr>
<td>10:05 – 10:25</td>
<td>Vaccine in pregnant women – Global Perspective</td>
<td>Dr Saad Omer, William H. Foege Professor of Global Health, Professor of Epidemiology &amp; Pediatrics, Emory University, USA</td>
</tr>
<tr>
<td>10:25 – 10:40</td>
<td>Discussions</td>
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<tr>
<td>10:40 – 11:00</td>
<td>COFFEE BREAK</td>
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<tr>
<td>11:00 – 12:00</td>
<td>SESSION G2: Influenza vaccine – Protecting pregnant women and infants (continued)</td>
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</tr>
<tr>
<td>11:00 – 11:20</td>
<td>Number of influenza cases averted in pregnant women through immunization in Thailand, 2009-2013</td>
<td>Dr Wanitchaya (June) Kittikraisak, Epidemiologist, Thailand MOPH – U.S. CDC Collaboration, Thailand</td>
</tr>
<tr>
<td>11:20 – 11:40</td>
<td>Influenza vaccine prequalification</td>
<td>Dr Martin Eisenhawer, WHO/SEARO</td>
</tr>
<tr>
<td>11:40 – 12:00</td>
<td>Discussions</td>
<td></td>
</tr>
<tr>
<td>12:00 – 13:30</td>
<td>LUNCH</td>
<td></td>
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<tr>
<td>13:30 – 14:30</td>
<td>CLOSING SESSION</td>
<td></td>
</tr>
</tbody>
</table>
Annex 2: List of participants

Ministry of Health – South-East Asia

Bangladesh

1. Dr Md Salim Uzzaman  
   Senior Scientific Officer  
   Department of Virology  
   Institute of Epidemiology, Disease Control and Research Dhaka
2. Prof Dr Tahmina Shirin  
   Chief Scientific Officer  
   Department of Virology  
   Institute of Epidemiology, Disease Control and Research Dhaka  
   Special Invitee
3. Prof Dr Mahmudur Rahman  
   Former Director  
   Institute of Epidemiology, Disease Control and Research Dhaka

Bhutan

4. Mr Kunzang Dorji Laboratory Officer  
   Public Health Laboratory  
   Thimphu
5. Dr Thupten Palzang  
   General Duty Medical Officer  
   Punakha Hospital  
   Punakha
6. Dr Suresh Chandra Mothey Medical Officer  
   Trongsa Hospital  
   Trongsa

India

7. Dr Megha Khobragade  
   DADG (International Health)  
   Ministry of Health & Family Welfare  
   Directorate General of Health Services  
   New Delhi

Indonesia

8. Dr Pretty Multihartina  
   Head, Center for Biomedic and Basic Health Technology  
   National Board of Health Research and Development  
   Ministry of Health  
   Jakarta
9. Dr Indra Kurnia Sari  
   Head, Pneumonia Section  
   Directorate, Communicable Diseases Prevention and Control  
   Jakarta
10. Dr Masri Sembiring Maha  
   Epidemiologist  
   Center for Biomedic and Basic Health Technology  
   Ministry of Health  
   Jakarta

**Maldives**

11. Dr Milza Abdul Muhusin  
    Consultant Pathologist  
    Indhira Gandhi Memorial Hospital  
    Male’

12. Mr Ibrahim Nishan Ahmed  
    Senior Public Health Programme Officer  
    Health Protection Agency  
    Ministry of Health  
    Male’

**Myanmar**

13. Dr Soe Win Paing (Mr)  
    Team Leader  
    Special Disease Control Unit  
    Rakhine State Public Health Department  
    Sittwe

14. Dr Pan Ei Soe (Ms) Medical Officer (Micro)  
    National Health Laboratory  
    Yangon

**Nepal**

15. Mr Bishnu Prasad Upadhyay Medical Microbiologist  
    National Public Health Laboratory  
    Ministry of Health  
    Kathmandu

16. Mr Bhim Prasad Sapkota  
    Public Health Officer  
    Epidemiology & Disease Control Division  
    Department of Health Services  
    Ministry of Health  
    Kathmandu

17. Dr Kedar Prasad Baral Rector – PAHS  
    Professor of Public Health  
    Department of Community Health Sciences  
    Patan Academy of Health Sciences  
    Lalitpur

**Sri Lanka**

18. Dr Jude Jayamaha  
    Consultant Medical Virologist  
    Head, National Influenza Centre  
    Medical Research Institute  
    Colombo

19. Dr N Y Samaraweera Epidemiologist  
    Epidemiology Unit  
    Ministry of Health, Nutrition and Indigenous Medicine
Colombo

**Thailand**
20. Miss Suthanun Suthachana  
   Public Health Officer—Professional Level  
   Bureau of Epidemiology  
   Department of Disease Control  
   Ministry of Public Health  
   Bangkok

21. Miss Sunthareeya Waicharoen  
   Medical Scientist-Sr. Professional Level  
   Respiratory Virus Section  
   National Institute of Health  
   Department of Medical Sciences  
   Ministry of Public Health  
   Bangkok

**Timor Leste**
22. Mr Ismael Salvador da Costa Barreto  
   Executive Director for National Laboratory  
   of Health Ministry of Health  
   Dili

23. Ms Maria Angela Varela Niha  
   Head of Surveillance and Epidemiology  
   Department  
   Ministry of Health  
   Dili

**WHO Country Offices – South-East Asia**

**Bangladesh**
24. Dr Mohamed Hammam Hassan A El Sakka  
   Medical Officer - Epidemiologist

**Bhutan**
25. Mr Ugyen Wangchuk  
   National Professional Officer

**India**
26. Dr Pavana Murthy  
   National Professional Officer

**Indonesia**
27. Dr Endang Widuri Wulandari  
   Program Officer – Influenza Maldives

28. Ms Thimna Latheer  
   National Professional Officer  
   Health and Environment

**Myanmar**
29. Dr Dubravka Selenic Minet  
   Technical Officer - Epidemiologist

**Nepal**
30. Dr Prakash Ghimire  
   National Professional Officer

**Sri Lanka**
31. Dr N Janakan Navaratnasingam  
   National Professional Officer - CDC
Thailand
32. Dr Daniel Kertesz
   WHO Representative
33. Dr Richard Brown
   Programme Officer - Border Health

Timor Leste
34. Dr Arun K Mallik
   Medical Officer – Epidemiology

Ministry of Health – Western Pacific

Cambodia
35. Dr Horm Srey Viseth Senior Researcher
   Virology Unit
   Pasteur Institute du Cambodge
   Phnom Penh
36. Dr Ly Sovann
   Director
   Department of Communicable Disease
   Control
   Ministry of Health
   Phnom Penh

Lao Peoples Democratic Republic
37. Dr Phengta Vongphrachanh Director
   National Center for Laboratory and
   Epidemiology
   Vientiane
38. Mr Thongchanh Sisouk Chief of Serology-Virology Laboratory
   National Center for Laboratory and
   Epidemiology
   Vientiane

Mongolia
39. Dr Naranzul Tsedenbal
   Virologist
   National Center for Communicable
   Diseases, Ministry of Health
   Ulaanbaatar
40. Dr Buyanjargal Yadamsuren Deputy Director
   National Center for Communicable
   Diseases, Ministry of Health
   Ulaanbaatar

Viet Nam
41. Dr Nguyen Thanh Long
   Director of NIC
   Influenza Laboratory
   Institute Pasteur in Ho Chi Minh
   Ho Chi Minh City
42. Dr Nguyen Le Khanh Hang
   Deputy Head
   Virology Department
   National Institute of Hygiene and
   Epidemiology Hanoi
**WHO – Head Quarters**

43. Dr Julia Fitzner  
   Burden of Disease  
   Department of Health Security and Emergency Response

44. Dr Paul Rogers  
   Project Manager  
   Pandemic Influenza Preparedness  
   Department of Health Security and Emergency Response

45. Dr Raymond Hutubessy  
   Technical Officer – Initiative for Vaccine Research  
   Department of Immunization Vaccines and Biologicals

46. Dr Gina Samaan  
   Human-animal Interface  
   TIPRA/Risk Assessment  
   Department of Health Security and Emergency Response

47. Dr Bikram Maharjan  
   Data Manager (Consultant)  
   HQ / HSE / PED / HIP

**Temporary Advisers**

48. Dr Mandeep S Chadha  
   Scientist (F)  
   National Institute of Virology  
   Pune

49. Dr Malinee Chittaganpitch  
   Chief – Respiratory Virus Section  
   Thai NIC  
   National Institute of Health  
   Department of Medical Sciences  
   Bangkok

50. Dr Shinji Watanabe  
   Chief of Laboratory  
   Influenza Virus Research Center WHO Collaborating Centre for Reference and Research on Influenza  
   National Institute of Infectious Disease  
   Tokyo

51. Dr Ian Barr  
   Acting Director  
   WHO Collaborating Centre for Reference and Research on Influenza  
   Peter Doherty Institute for Infection and Immunity  
   Melbourne, Australia

52. Dr Stacey L. Schultz-Cherry Member,  
   Department of Infectious Disease  
   St. Jude Children’s Research Hospital  
   Memphis
53. Dr Saad B.Omer  
   Professor  
   Global Health, Epidemiology and Pediatrics  
   Emory University  
   Atlanta

54. Dr Janice Lo  
   Consultant Medical Microbiologist  
   Public Health Laboratory Centre  
   Department of Health WHO Reference Laboratory for Diagnosis of A/H5 Infection and National  
   Influenza Centre  
   Hong Kong SAR

**Special Agreement**

55. Ms Michelle McPherson  
   Consultant – Influenza  
   Sydney

**Self-funded participants & Observers**

56. Dr Viengphone Khamtmany  
   U.S. CDC - Lao PDR  
   United States Embassy  
   Vientiane

57. Dr Song Ying  
   Senior Program Officer  
   Influenza Program  
   Centre for Disease Control  
   Beijing

58. Dr Jeffrey W McFarland  
   Director  
   Influenza and Animal-Human Interface Program  
   U.S. CDC - Vietnam  
   Hanoi

59. Dr Patrick Reading  
   WHO Collaborating Centre for Reference and Research on Influenza  
   Peter Doherty Institute for Infection and Immunity  
   Melbourne, Australia

60. Dr Aeron Hurt  
   Ag. Deputy Director  
   WHO Collaborating Centre for Reference and Research on Influenza  
   Peter Doherty Institute for Infection and Immunity  
   Melbourne, Australia

61. Ms Vivian Leung  
   Epidemiologist  
   WHO Collaborating Centre for Reference and Research on Influenza  
   Peter Doherty Institute for Infection and Immunity  
   Melbourne, Australia

62. Dr Yi Mo Deng  
   Head – Molecular Group  
   WHO Collaborating Centre for Reference and Research on Influenza  
   Peter Doherty Institute for Infection and Immunity  
   Melbourne, Australia
63. Dr Stephen Lindstrom  
   Team Lead  
   Diagnostics Development Team  
   Virus Surveillance and Diagnosis Branch  
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   Atlanta, United States  

64. Ms Karen Rose Siener  
   Project Officer, Extramural Team  
   Influenza Division, NCIRD,  
   Centers for Disease Control and Prevention  
   Atlanta, United States  

65. Ms Vashonia Latesia Smith  
   Project Officer, Extramural Team  
   Influenza Division, NCIRD,  
   Centers for Disease Control and Prevention  
   Atlanta, United States  

66. Dr Caitlin Holly  
   Regional Veterinary Officer OIE Regional Representation for Asia and the Pacific  
   Bangkok, Thailand  

67. Mr Wudtichai Manasatienkij  
   Armed Forces Research Institute of  
   Medical Sciences (AFRIMS)  
   Bangkok, Thailand  

68. Ms Kamonthip Rungrojcharoenkit  
   Armed Forces Research Institute of  
   Medical Sciences (AFRIMS)  
   Bangkok, Thailand  

69. Dr Kachen Wongsathapornchai  
   Emergency Centre for Transboundary Animal Diseases  
   Food and Agriculture Organization of the United Nations  
   Regional Office for Asia and the Pacific  
   Bangkok, Thailand  

70. Dr Wanitchaya (June) Kittikraisak  
   Epidemiologist  
   Thailand MOPH – U.S. CDC Collaboration  
   Bangkok, Thailand  

71. Dr Darunee Tuntasuvan  
   Agricultural Scientist  
   USDA APHIS  
   Bangkok, Thailand  

72. Dr Sudarat Damrongwatanapokin  
   Regional Animal Head Advisor  
   USAID – Regional Development Mission Asia  
   Bangkok, Thailand  

73. Dr Apichai Mongkol  
   Director General  
   Department of Medical Sciences  
   Ministry of Public Health  
   Nonthaburi, Thailand
74. Dr Amnuay Gajeena  
   Director General  
   Department of Disease Control  
   Ministry of Public Health  
   Nonthaburi, Thailand  

75. Dr Kevin Clarke Interim Director  
   International Emerging Infections Program  
   Global Disease Detection Center  
   Thailand MOPH-US CDC Collaboration  
   Bangkok  

76. Dr Kimberly Lindblade Influenza Team Lead  
   Thailand MOPH-US CDC Collaboration  
   Bangkok, Thailand  

WHO Secretariat (SEARO)  
77. Prof Tjandra Aditama  
   Special Adviser to the Regional Director  

78. Dr Pushpa Wijesinghe  
   Technical Officer  
   Immunization and Vaccines Development  

79. Dr Aparna Singh Shah  
   Regional Adviser  
   Health Laboratory Services and Blood Safety  

80. Dr Martin Eisenhawer  
   Scientist  
   Immunization and Vaccines Development  

81. Dr Miftahul Fahmi Sembiring  
   Technical Officer  
   Programme Management  
   Department of Health Security and Emergency Response  

82. Dr Philip L Gould  
   Medical Officer  
   Influenza and other Emerging Pathogen Surveillance  
   Department of Health Security and Emergency Response  

83. Ms Marina Maybel Benjamin Associate  
   Emergency Risk Management  
   Department of Health Security and Emergency Response  

WHO Secretariat (WPRO)  
84. Dr Erica Lynn Dueger  
   Medical Officer - Influenza  
   Emerging Disease Surveillance and Response  

85. Dr Frank Konings  
   Acting Medical Officer (IHR)  
   Emerging Disease Surveillance and Response
86. Ms Sarah Hamid
   Technical Officer
   Monitoring and Evaluation
   Emerging Disease Surveillance and Response
87. Dr Temitope Folaranmi
   Consultant
   Emerging Disease Surveillance and Response
88. Ms Leila Bell
   Emerging Disease Surveillance and Response
Implementation of the Pandemic Influenza Preparedness (PIP) Framework in the WHO South-East Asia and Western Pacific Regions

Introduction

A side meeting on the Implementation of the Pandemic Influenza Preparedness (PIP) Framework in the WHO South-East Asia and Western Pacific Regions was held on 27 July in Thailand Bangkok. The meeting was coordinated by the WHO Regional Office for South-East Asia in collaboration with the WHO Regional Office for the Western Pacific.

This session was attended by participants from the eight of the 11 Member States in the WHO South-East Asia and Western Pacific Regions that are funded by the PIP framework and participants from WHO headquarters, the two regional offices and country offices.

The aim of the meeting was to review the implementation of the PIP framework to date and plan the way forward for the remainder of 2016 and 2017.

Objectives and expected outcomes

The objectives of this meeting were to:

1. Update Member States in the WHO South-East Asia and Western Pacific Regions on PIP implementation in the first half of 2016 from the global perspective, planning processes for 2017 and the next steps in planning for 2018 and beyond;
2. Review the implementation of the PIP Framework both regions in the first half of 2016;
3. Review national priorities and strengthen PIP fund implementation on the basis of these priorities and in line with the Asia Pacific Strategy for Emerging Diseases and Public Health Emergencies (APSED) and PIP high-level implementation plan objectives; and
4. Discuss the progress, challenges and way forward to expedite the high-level implementation plan capacity building in both regions.

Proceedings

The meeting was inaugurated by the Senior Advisor to the Regional Director of the WHO Regional Office for South-East Asia, Prof Tjandra Aditama.

The Pandemic Influenza Preparedness Framework from a global perspective

Dr Paul Rogers, Project Manager, Pandemic Influenza Preparedness Secretariat, Department of Health Security and Emergency Response, WHO Headquarters

Dr Paul Rogers summarised the PIP framework including the type of work that is covered by the framework, that it has to be linked to the achievement of outputs and outcomes and can include procurement of equipment and staff. As the funding is received as part of a partnership contribution from influenza vaccine, diagnostic and pharmaceutical manufacturers, there is more accountability on how the funds are spent. The high level implementation plan from 2013-2016 has been extended to 2017, and outlines the outputs and targets required for the five indicators. The surveillance and laboratory indicator is managed by WHO Regional Offices, whereas the other four – Burden of
disease, Regulatory, Risk communications and Planning for deployment – are managed by WHO headquarters. National activity planning should align with these indicators.

The next steps for 2016 include the completion of 2017 workplans which are due at end of September 2016. There will also be a round of data collection in September 2016 of progress against the indicators. Member States were encouraged to be practical and realistic in their planning and to frame them around the results framework.

**PIP from the regional perspective**

*Ms Sarah Hamid, Technical Officer – Monitoring and Evaluation, Emerging Disease Surveillance and Response, WHO Regional Office for the Western Pacific*

*Miftahul Fahmi Sembiring, Technical Officer, WHO Regional Office for South East Asia*

Ms Sarah Hamid provided an overview of the activities conducted in the WHO Western Pacific Region under the PIP framework in the five priority countries and areas – Cambodia, Fiji, Lao Peoples Democratic Republic, Mongolia and Viet Nam. Achievements under the laboratory and surveillance priority area were presented as were the results for the regional laboratory and surveillance indicators. This included regional information sharing, laboratory training of 21 countries in biosafety and infectious shipping, the procurement of a PCR machine in Papua New Guinea and burden of influenza training in four PIP countries. The 2016 highlights for each PIP country were also presented as well as the planned activities for the remainder of 2016.

Dr Miftahul Fahmi Sembiring provided an overview of the activities conducted in the WHO South-East Asian Region under the PIP framework in the six priority countries – Bangladesh, Democratic People's Republic of Korea, Indonesia, Myanmar, Nepal and Timor-Leste. The results for the regional laboratory and surveillance indicators were presented, as was the current implementation for 2016 and the proposed activities for the remainder of 2016. This included the expansion of ILI and SARI surveillance sites, the training of more health care workers on case management (detection, diagnosis, treatment and care) for ILI/SARI and maintaining laboratory reagents, equipment supplies and trained human resources in laboratories across the region.

**Discussion**

Several countries provided a verbal update of what they have done to date in 2016 under the PIP framework and their plans for the remainder of 2016 and 2017.

There was some clarification on the specific activities that could be undertaken by the countries as part of PIP, including the purchase of a PCR machine. For 2016, the current workplan needs to be followed, with any large changes escalated through the approval process at the Global Influenza Program at WHO headquarters. The 2017 workplan is due at the end of September 2016.

Professor Tjandra Aditama concluded the meeting with three comments:

- That the PIP framework has had a good impact in the WHO South-East Asian and Western Pacific regions already;
• However, there are still several gaps that can be filled by PIP in 2016 and 2017, which include risk communication and the purchase of laboratory machines; and
• More communication around the processes would be useful.