Annual consultative meeting with the representatives of the South-East Asia (SEA) Regional informal laboratory network for preparedness and response to public health emergencies

Virtual meeting
New Delhi, India, 16 August 2021

Report of the meeting
Annual consultative meeting with the representatives of the South-East Asia (SEA) Regional informal laboratory network for preparedness and response to public health emergencies

Virtual meeting

New Delhi, India, 16 August 2021

Report of the meeting
# Contents

List of acronyms and abbreviations........................................................................................................ iv

1. Background ...........................................................................................................................................1

2. Objectives of the meeting..................................................................................................................2

3. Opening session .................................................................................................................................2
   3.1 Opening session by Dr Jos Vandalaer .........................................................................................2
   3.2 Brief presentation on the implementation of recommendations of the previous meeting, and how it contributed to the pandemic response in the SEA Region: Mr Francis Yesurajan ........3
   3.3 Country presentations on issues, challenges and key lessons learned during the COVID-19 pandemic: Dr Vivi Setiawaty: Indonesia........................................................................ 3
   3.4 Presentation by Dr Runa Jha: Nepal.........................................................................................3
   3.5 Presentation by Dr Ibrahim Afzal: Maldives ............................................................................4

4. Recommendations for interventions to be implemented.................................................................5
   4.1 Recommendations for strategic interventions ...........................................................................8
   4.2 Concluding remarks by Dr Pushpa Wijesinghe .....................................................................9

Annexes

1. Agenda ...........................................................................................................................................10

2. Programme .......................................................................................................................................11

3. List of participants..........................................................................................................................12
List of acronyms and abbreviations

COVID-19       coronavirus disease 2019
DPR Korea  Democratic People’s Republic of Korea
EOC       emergency operations centre
EQAP     external quality assurance programme
HIV     human immunodeficiency virus
IHM Infectious Hazards Management
ILI     influenza-like illness
NIPPP National Influenza Pandemic Preparedness Plan
NIV National Institute of Virology
NPHL National Public Health Laboratory
PCR polymerase chain reaction
QMS quality management system
SAR Special Administrative Region (Hong Kong SAR, People’s Republic of China)
SARI severe acute respiratory illness
SARS-CoV-2 severe acute respiratory syndrome associated coronavirus-2
SEARO (WHO) Regional Office for South-East Asia
WHE WHO Health Emergencies Programme
WHO World Health Organization
WHO CO World Health Organization Country Office
1. Background

Member States of the WHO South-East Asia Region are vulnerable to public health emergencies and have suffered from such emergencies and outbreaks in recent years (https://apps.who.int/iris/handle/10665/258766). To envision an effective informal Regional Laboratory Network to better handle any public health emergency in the South-East Asia Region, the Infectious Hazards Management (IHM) unit of the WHO Health Emergency Programme (WHE) at the Regional Office for South-East Asia (SEARO) organized an informal consultation of laboratory focal points of national public health laboratories in Member States on 19–20 August 2019 at Ulaanbaatar, Mongolia. The informal consultation was titled “Development of a regional laboratory network to augment national laboratory capacity for public health emergencies”. It was jointly conducted with the 13th Bi-regional meeting of national influenza centres and influenza surveillance in WHO’s South-East Asia and Western Pacific regions.

The facilitated discussion during the meeting paved the way for (i) identifying key actions for a roadmap for public health laboratories for high-threat pathogens in Member States, in collaboration with WHO and WHO collaborating centres; (ii) understanding the common existing challenges and gaps in functionality for an effective informal regional network of laboratories for public health emergencies; and (iii) identifying country or Region-specific expectations of SEA Region laboratory focal points from the Regional Public Health Laboratory Network. Since then, several efforts were made by WHE-SEARO to implement identified roadmap strategies with appropriate interventions and further consolidate the informal network for public health response especially in the context of the COVID-19 pandemic.

The response to the COVID-19 pandemic has amply demonstrated how the existence of a laboratory network could assist countries to develop and scale up diagnostic capacity quickly. This is largely achieved through activities such as regional webinar platforms, experience sharing sessions, existing engagements with WHO collaborating centres and reference laboratories, essentially reflecting the efforts towards implementation of the strategic interventions developed by experts with SEARO’s informal laboratory network. The effective networking activities were not limited only to diagnostic capacity, but also gave opportunities and access for countries to have access to advanced testing such as genomic sequencing, virus isolation and phenotypic characterization, etc.

Experience during the COVID-19 pandemic emphasized the importance of having active laboratory networking, which could potentially cultivate best practices for preparedness and response by public health laboratories during public health emergencies. It also demonstrated the value of building stronger engagements for active technical exchanges between countries for optimizing the capacity of laboratory systems in the Region. However, the COVID-19 pandemic also exposed several challenges and limiting factors for effective national networking of laboratories for diagnostics, genomic characterization, etc. The meeting aimed to discuss the next steps for focusing on within the network for building regional capacity in the early detection of priority pathogens during public health emergencies, which could subsequently augment resilient national systems and
networks of laboratories. The lessons learned during the COVID-19 pandemic will serve as an ideal platform for such discussions on better preparedness.

2. Objectives of the meeting

The following were the general and specific objectives of the meeting.

**General**

- To review the activities agreed upon at the previous meeting and discuss the priority areas for focusing within the network to build regional capacity in early detection of priority pathogens during public health emergencies.

**Specific**

- To review the progress of implementation of strategic interventions developed during the 2019 Informal Consultation and its contributions towards strengthening the laboratory network in the SEA Region.
- To identify and utilize opportunities created during the pandemic for sustaining and improving the effectiveness of the regional network.
- To further develop activities for the next year, largely to support the national laboratory capacity for public health emergencies.

3. Opening session

3.1 Opening session by Dr Jos Vandalaer

The meeting was opened by Dr Jos Vandalaer, Regional Emergency Director, WHO Regional Office for South-East Asia.

Dr Vandalaer highlighted the crucial role laboratories play in preparedness and response to infectious disease emergencies. He noted that effective networking between laboratories is vital in building, strengthening and sustaining laboratory capacities within and between countries.

At the meeting in Ulaanbataar in 2019, the development of an effective informal laboratory network to better handle public health emergencies in Member States was envisaged. Key actions for public health laboratories to improve preparedness and response to high-threat pathogens in Member States were developed and existing challenges and gaps identified to further improve capability of the network. The strategic interventions agreed upon in the Ulaanbataar meeting have led to a platform that shares laboratory-related webinars, allows experience and best practice sharing, and has fostered engagement of public health laboratories with reference laboratories and collaborating centres. Diagnostic capacity has also been enhanced, through increased access to genomic sequencing, virus isolation and phenotypic characterization.

These interventions have proven to be useful in the COVID-19 pandemic response. While the COVID-19 pandemic has highlighted the strengths of the network, it has also
identified some existing gaps and challenges. Dr Vandalaer concluded by noting the general objective for the 2021 meeting: to discuss the priority focus areas within the network in building regional capacity for early detection of priority pathogens during public health emergencies.

3.2 Brief presentation on the implementation of recommendations of the previous meeting, and how it contributed to the pandemic response in the SEA Region: Mr Francis Yesurajan

Mr Francis Yesurajan provided a summary of the strategic interventions agreed upon at the last meeting and the resulting roadmap and its role during the COVID-19 pandemic. Significantly, the mapping of expert laboratories, specimen referral pathways, regional webinars, experience and knowledge sharing platforms from the roadmap had greatly contributed to the COVID-19 pandemic response.

3.3 Country presentations on issues, challenges and key lessons learned during the COVID-19 pandemic: Dr Vivi Setiawaty: Indonesia

Vivi Setiawaty presented the issues, challenges and key lessons learned during the COVID-19 pandemic in Indonesia. Since the beginning of the pandemic, Indonesia has recruited five new ILI and eight new SARI sentinel surveillance sites. In line with the WHO guidance document on influenza surveillance during the COVID-19 pandemic, Indonesia has begun testing specimens from ILI and SARI sentinel sites for both influenza and SARS-CoV-2. However, the country observed a significant decrease in ILI and SARI cases reported and specimens collected in 2020. Thus, there have been fewer influenza isolates (zero in 2021) and the country has been unable to perform sequencing. Indonesia has agreed to test SARS-CoV-2-negative specimens for influenza. However, there are no clinical data attached to these samples, so they are unable to discern whether they meet the ILI or SARI case definitions.

3.4 Presentation by Dr Runa Jha: Nepal

Dr Runa Jha presented the gaps and challenges in implementing recommendations of the previous meeting in Nepal. Dr Jha noted that the influenza recommendations have served as relevant guidance for creating a roadmap for the COVID-19 pandemic response in Nepal. At the beginning of the pandemic, Nepal utilized the existing SE Asia Region network and forwarded an influenza-negative sample to the WHO collaborating centre in the China, Hong Kong Special Administrative Region (SAR) for SARS-CoV-2 testing. Nepal has also utilized this network for identification of unsubtypeable influenza samples.
Nepal has expanded their laboratory network for detection of pathogens of public health importance. The pandemic fast-tracked the development of a decentralised provincial public health laboratory network. At the beginning of the pandemic only the NPHL was able to test for SARS-CoV-2; now there are 96 laboratories with the capacity.

Dr Jha noted the importance of communicating with the newer laboratories in the network. There is frequent communication between the laboratory network via WhatsApp and email, and site visits where possible. Through this network, the NPHL provides support to laboratories when needed. They have also conducted virtual training for the network on areas such as biosecurity, laboratory troubleshooting and data reporting. There is an action plan for the network to broaden its focus to other diseases and public health activities. Regarding high-threat pathogens, Nepal has developed and endorsed a list of country-specific high-threat pathogens, as recommended during the previous meeting. As a result, the country now also has the ability to detect Nipah virus.

3.5 Presentation by Dr Ibrahim Afzal: Maldives

Dr Afzal reported on the activities of Maldives in relation to the interventions agreed upon at last meeting in the context of the COVID-19 pandemic. The pandemic triggered a huge diversion of laboratory and human resources and as a result, there has been significant underreporting of influenza by sentinel sites. The NIPPP is currently being revised and updated with lessons learned from COVID-19. The country was able to promptly establish a health emergencies operations centre using a multisectoral collaboration of government, nongovernment and donor organizations. In the early stages of the pandemic, the country was also able to perform one table-top and two full-scale simulation exercises.

A strength in Maldives’ response to the pandemic has been the development of multiple online platforms to collect and share data for a variety of purposes, such as communication from the emergency operations centre (EOC) to the islands, collection of sample data, contact tracing and vaccination records. In the early stages of the pandemic, Maldives utilized the existing SEA Regional laboratory network and outsourced SARS-CoV-2 testing. The country now has PCR testing capacity in multiple laboratories across the country, but it still utilizes the exiting network for genome sequencing. This PCR testing capacity will be expanded in the future to detect other pathogens, e.g. HIV. The goal for Maldives moving forward is to incorporate influenza sampling into the current COVID-19 system to strengthen their influenza surveillance. Dr Pushpa Ranjan Wijesinghe (Programme Area Manager, Infectious Hazards Management) noted that Maldives displayed a great example of overcoming challenges during the pandemic by utilizing the air and sea ambulance services to transport samples.
4. **Recommendations for interventions to be implemented**

Each Member State presented the challenges faced during the pandemic and suggestions on interventions to make going forward. Suggestions for interventions are depicted in bold in the table below.

<table>
<thead>
<tr>
<th>Member State</th>
<th>COVID-19 experience and recommendations for new interventions</th>
</tr>
</thead>
</table>
| Bangladesh   | • Expanded the number of laboratories with SARS-CoV-2 testing capacity to >60 in the public sector and >70 in the private sector.  
• Development of a national laboratory testing network that incorporates both human and animal testing laboratories. Currently this is specific to influenza and SARS-CoV-2 but there are plans to develop a system that includes other emerging infectious diseases. |
| Bhutan       | • Developed a SARS-CoV-2/influenza integrated surveillance system by leveraging the existing influenza system.  
• Initially efficient, but focus shifted to COVID-19 as the pandemic progressed.  
• Low influenza reporting from sentinel sites.  
• Have begun advocating for influenza surveillance at non-sentinel sites.  
• **Noted difficulties with data management, with multiple platforms and a high burden of cases** → **suggestion to streamline data management.**  
• **Request for access to a roster of technical experts for technical consultation and clarification on laboratory, epidemiological matters, etc.**  
• **Request support for installation and operation of sequencing machine.** |
| DPR Korea    | • Relying on a centralized system where the national laboratory performs influenza and SARS-CoV-2 PCR testing.  
• Have faced procurement challenges as a result of port closures.  
• Noted the beneficial relationship with the Hong Kong SAR collaborating centre laboratory and that it has resulted in an exchange of knowledge and technical expertise → **further support from Hong Kong SAR to DPR Korea would be useful.**  
• Also suggested that biregional support via the Chinese collaborating centre would be useful.  
• Currently do not disaggregate data → **request for further data management training.**  
• Aiming to decentralize surveillance systems and upgrade provincial laboratories → **request for support from the Regional Office to assess and upgrade laboratory capacity.** |
<p>| India        | • 1200 laboratories now have SARS-CoV-2 testing capability; training and communication for troubleshooting has been done via videoconferencing. |</p>
<table>
<thead>
<tr>
<th>Member State</th>
<th>COVID-19 experience and recommendations for new interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Have enhanced national capacity through the development of new</td>
</tr>
<tr>
<td></td>
<td>protocols to increase sampling (pool testing protocol) and improve</td>
</tr>
<tr>
<td></td>
<td>throughput of platforms.</td>
</tr>
<tr>
<td></td>
<td>• Developed protocols that have been internally and externally</td>
</tr>
<tr>
<td></td>
<td>validated.</td>
</tr>
<tr>
<td></td>
<td>• The existing network has been utilized well: the NIV laboratory in</td>
</tr>
<tr>
<td></td>
<td>Pune played an important role in dissemination of reagents, and</td>
</tr>
<tr>
<td></td>
<td>establishment of quality-control systems.</td>
</tr>
<tr>
<td></td>
<td>• Decentralized system where state laboratories report to the state</td>
</tr>
<tr>
<td></td>
<td>reference laboratory, which report to Pune NIV laboratory.</td>
</tr>
<tr>
<td></td>
<td>• Expanded One Health capacity through establishment of four new</td>
</tr>
<tr>
<td></td>
<td>One Health sites (to replicate NIV) in geographically strategic</td>
</tr>
<tr>
<td></td>
<td>locations.</td>
</tr>
<tr>
<td></td>
<td>• Expanded genomic surveillance activity – regional laboratories are</td>
</tr>
<tr>
<td></td>
<td>now sequencing viruses – with plans to add 18 further sites.</td>
</tr>
<tr>
<td></td>
<td>• Formulated multiplex assay for simultaneous influenza/SARS-CoV-2</td>
</tr>
<tr>
<td></td>
<td>testing.</td>
</tr>
<tr>
<td></td>
<td>• NIV Pune (a WHO CC for strengthening capacity for emerging</td>
</tr>
<tr>
<td></td>
<td>infectious diseases) is an important source of technical expertise</td>
</tr>
<tr>
<td></td>
<td>for the SEA Region and should be utilized for consultation with</td>
</tr>
<tr>
<td></td>
<td>other countries.</td>
</tr>
</tbody>
</table>

| Indonesia    | • Currently, all resources have been redirected to the COVID-19 |
|              |     pandemic.                                                |
|              | • The high turnover of staff as a result of the pandemic has been a |
|              |     challenge.                                               |
|              | • Request for refresher training for influenza surveillance, both for |
|              |     laboratory and epidemiology staff.                       |
|              | • Request for regular technical meetings of NICs.            |

| Maldives      | • COVID-19 remains as primary concern for Maldives.           |
|              | • Plan to incorporate influenza surveillance into the system developed |
|              |     for COVID-19.                                            |
|              | • Seconded Indonesia’s request for data management training due |
|              |     to reliance on epidemiological data for decision-making.  |
|              | • A challenge that remains in Maldives is the maintenance and |
|              |     calibration of machines ➔ request for technical assistance. |
### Member State | COVID-19 experience and recommendations for new interventions
---|---
**Nepal**  
- The COVID-19 pandemic has accelerated plans to decentralize laboratory network systems, and this has been done successfully.
- Further plans are in place to strengthen this subnational laboratory network to incorporate other diseases, e.g. HIV, rotavirus, measles.
- Developed a unified data system for laboratories to provide patient details of both positive and negative SARS-CoV-2 samples – plan to replicate this for influenza surveillance but no plan developed yet.
- An area for improvement in the current system is the sample referral system – weakness in courier system and a shortage of human resources. **NPHL to address and escalate to WHO CO or RO if required.**
- **Request for SEARO to disseminate guidance document for strengthening of national laboratory systems, a framework that Member States can base the preparation of their own document on.**
- Nepal has developed laboratory quality control system with EQAPs every three months.
- **Request for SEARO to provide WHO-approved protocol for quality control of rapid antigen kits.**
- **Request for SEARO to provide protocols for conducting EQAP using lyophilized sample panels.**

**Sri Lanka**  
- Established PCR testing capacity and sample referral and transport system across the laboratory network.
- Noted challenges with staff turnover.
- **Request for support from SEARO to improve laboratory data management system** – have faced challenges with high testing numbers.
- **Request for support from SEARO in regulating reagent/test kits** – lots of kits made available.
- **Request for support for a cut-off on antibody testing panel now that vaccine is available.**

**Thailand**  
- Seconded all previous suggestions for interventions moving forward.
- **Request for list of laboratories that samples can be referred to if assistance is required.**
- Have provided EQA tests for new laboratories beginning to undertake SARS-CoV-2 testing.

**Timor-Leste**  
- Initially relied on existing network for SARS-CoV-2 testing but now has capacity to conduct 5000 tests within 24 hours.
- Laboratory staff trained to routinely refer sample to national laboratory, and national laboratory staff to refer to overseas laboratories when required.
4.1 Recommendations for strategic interventions

Existing networks

- The Regional Office must provide a list of experts for Member States to contact for direct technical consultations during emergencies.
- SEARO to provide list of expert laboratories for Member States to forward samples for testing when required.

Laboratory testing for detection of priority high-threat pathogens

- Support national laboratories to strengthen diagnostics for high-threat pathogens based on the national context.
- Provide refresher training (for influenza and SARS-CoV-2) based on country needs.
- Establish and strengthen genomic sequencing capacity.

Data management

- Strengthening and capacity-building of countrywide unified laboratory data management systems, preferably web-based.
- Facilitate country-specific tailored data management specific to trainings.

Specimen referral and transport system

- Support the strengthening of national specimen referral systems.
- Strengthen specimen regional referral mechanisms for genomic sequencing (for SARS-CoV-2 and other high-threat pathogens).

Effective national networks

Regional guidance/framework on strengthening national laboratory network and laboratory quality systems.

- Support strengthening in-country validation of kits (including rapid tests) – provide guidance documents.
- Support strengthening regulation of reagents and test kits.
- Support strengthening of SARS CoV2 antibody testing panels.
- Support development of national QMS, including organizing national EQAP using lyophilized specimens.
- Improve technical assistance for periodic maintenance and calibration of machines (country-dependent).
4.2 Concluding remarks by Dr Pushpa Wijesinghe

This meeting allowed participants to identify gaps and challenges in implementing the interventions adopted at the meeting in Ulaanbaatar in 2019. Member States are encouraged to view influenza surveillance as the foundation, work on strengthening this system, and then think about how this can be expanded to incorporate other respiratory viruses of concern. This will enable laboratory preparedness for response to public health emergencies. Member States are encouraged to develop a list of country-specific priority pathogens. The Regional Office will develop a list of priority pathogens and relevant diagnostic SOPs for the region in consultation with Member States over the next two years.
Annex 1

Agenda

General objective of the meeting

To review the activities agreed upon at the previous meeting and discuss the priority areas of focus within the network for building regional capacity in early detection of priority pathogens during public health emergencies.

Specific objectives of the meeting:

- To review the progress of implementation of strategic interventions developed during the 2019 Informal Consultation and its contributions towards strengthening laboratory networks in the SE Asia Region.
- To identify and utilize opportunities created during the pandemic for sustaining and improving the effectiveness of the regional network.
- To further develop activities for the next year, largely to support the national laboratory capacity for public health emergencies.

Expected outputs from the meeting

- A list of strategic interventions agreed upon in 2019 that contributed towards laboratory network development.
- Addressing the gaps and challenges in implementing the strategic interventions identified in the previous meeting and opportunities these interventions offered for pandemic response.
- List of activities of the network for the next year in the context of preparedness and response to public health emergencies.
Annex 2

Programme

<table>
<thead>
<tr>
<th>Opening session</th>
<th>Regional Emergency Director</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction of participants</td>
<td></td>
</tr>
<tr>
<td>Overview of objectives of the meeting</td>
<td>Dr Dhamari Naidoo</td>
</tr>
<tr>
<td>Nomination of Chair and Rapporteur</td>
<td>Dr Pushpa Wijesinghe</td>
</tr>
<tr>
<td>Recap: Brief presentation on the implementation</td>
<td>Mr Francis Inbanathan</td>
</tr>
<tr>
<td>of recommendations of the previous meeting and</td>
<td></td>
</tr>
<tr>
<td>how it contributed to the pandemic response in</td>
<td></td>
</tr>
<tr>
<td>the SE Asia Region</td>
<td></td>
</tr>
<tr>
<td>Sharing of experiences by three Member States on</td>
<td>Indonesia, Nepal, Maldives</td>
</tr>
<tr>
<td>gaps/challenges in implementing recommendations</td>
<td></td>
</tr>
<tr>
<td>of the previous meeting</td>
<td></td>
</tr>
<tr>
<td>Facilitated discussions on list of planned</td>
<td>All participants</td>
</tr>
<tr>
<td>interventions (recommendations) for the next</td>
<td></td>
</tr>
<tr>
<td>year and suggestions for the way forward by</td>
<td></td>
</tr>
<tr>
<td>Member states</td>
<td></td>
</tr>
<tr>
<td>Conclusions and recommendations</td>
<td>WHE-SEARO</td>
</tr>
</tbody>
</table>
Annex 3

List of participants

SE Asia Region Member States

Bangladesh
Professor Dr Tahmina Shirin
Director
IEDCR, DGHS, MoHFW
Bangladesh

Dr Manjur Hossain Khan Jony
Assistant Professor
IEDCR, DGHS, MoHFW
Bangladesh

Dr A.S.M. Alamgir
Principal Scientific Officer (PSO),
IEDCR, DGHS, MoHFW
Bangladesh

Bhutan

Mr Binay Thapa
Chief Laboratory Officer
RCDC, Department of Public Health
Ministry of Health
Bhutan

Mr Tshewang Dorji
Assistant Programme Officer
CDD, Department of Public Health
Bhutan

India

Dr Pranay Verma
Joint Director (CSU, IDSP)
MoHFW
India

Dr Simrita Singh
JD & OIC (NCDC)
MoHFW
India

Dr Varsha Potdar
Scientist ‘D’ & Influenza Group Leader
ICMR National Institute of Virology
National Influenza Centre
MoHFW
India

Indonesia

Dr dr. Vivi Setiawaty
Director for Research and Development of Biomedical and Basic Health Technology
Ministry of Health
Indonesia

dr. Ni Ketut Susilarini, MS
Head of ILI and SARI Researcher
Ministry of Health
Indonesia

Dr Eka Muhiiryah, SKM, MKM
Epidemiologist
Ministry of Health
Indonesia

Dr Rohani Simanjuntak, SKM, MKM
Epidemiologist, Acute Respiratory Infection
Ministry of Health
Indonesia

Dr Alfinella Izhar Iswandi, MPH
Sub-coordinator pneumonia, Acute Respiratory Infection
Ministry of Health
Indonesia

Maldives

Dr Ibrahim Afzal
Epidemiologist
Health Protection Agency
Maldives

Ms Sarah Jamal
Senior Public Health Programme Officer
Health Protection Agency
Maldives

Ms Ramsha Abdul Sattar
Project Coordinator
Health Protection Agency
Maldives

Ms Aminath Nazfa,
Senior Laboratory Technician
Indira Gandhi Memorial Hospital
Maldives

Nepal

Dr Runa Jha
Director
National Public Health Laboratory
Nepal

Ms Lilee Shrestha Sharma
Chief Medical Technologist
National Public Health Laboratory
Nepal
Annual consultative meeting with the representatives of the South-East Asia (SEA) Regional informal laboratory network for preparedness and response to public health emergencies

Mr Bhim Prasad Sapkota
Sr Public Health Administrator
Ministry of Health and Population
Nepal

Sri Lanka
Dr Chinthana Perera
Consultant Epidemiologist
Ministry of Health
Sri Lanka
Dr C.J.S. Jayamaha
Consultant Virologist
Medical Research Institute
Sri Lanka

Thailand
Ms Pilailuk Akkapaiboon Okada
Medical Technologist, Senior Professional level
National Institute of Health
Department of Medical Sciences
MoPH, Thailand
Dr Teerasak Chuxnum
Veterinarian, Senior Professional Level
Division of Epidemiology
Department of Disease Control
MoPH, Thailand

Timor-Leste
Dr Filipe de Neri Machado
Head of Surveillance
Ministry of Health
Timor-Leste
Dr Endang Soares da Silva
Executive Director of National Health Laboratory
Ministry of Health
Timor-Leste

WHO country offices
Dr Kazi Mohammad Hassan Ameen
National Consultant
WHO Bangladesh
Ms Anupurba Roy Chowdhury
Technical Officer
WHO DPR Korea
Dr Pavana Murthy
National Professional Officer
WHO India
Dr Ritu Singh Chauhan
NPO (International Health Regulations)
WHO India
Dr Endang Wulandari
NPO (Epidemiology)
WHO Indonesia
Ms Tina Kusumaningrum
NPO (Laboratory)
WHO Indonesia
Dr Faiha Ibrahim
NPO (EHA)
WHO Maldives
Dr Arunkumar Govindakarnavar
Technical Officer (Public Health Laboratory)
WHO Nepal
Dr Subash Neupane
NPO (PIP focal point)
WHO Nepal
Ms Maria Varela
NPO Surveillance
WHO Timor-Leste

WHO SEARO Secretariat
Dr Jos Vandelear
Regional Emergency Director
Dr Pushpa Wijesinghe
Programme Area Manager (IHM)
Dr Dhamari Naidoo
Public Health Laboratory Scientist
Dr Manish Kakkar
Technical Officer
Dr Supriya Bezbaruah
Technical Officer
Mr Tika Ram Sedai
Technical officer
Mr Francis Yesurajan Inbanathan
Technical Officer
Dr Manisha Shridhar
Technical Officer
Ms K.S. Asha
Executive Assistant

Consultant
Ms Olivia Hayley
External Consultant

WHO Collaborating Centre
Dr Stefan Fernandez
Chief, Department of Virology
WHO CC Armed Forces Research Institute of Medical Sciences (AFRIMS)
Bangkok, Thailand
Dr Anthony Jones Mil
WHO CC Armed Forces Research Institute of Medical Sciences (AFRIMS)
Bangkok, Thailand
Annual consultative meeting with the representatives of the South-East Asia (SEA) Regional informal laboratory network for preparedness and response to public health emergencies

Virtual meeting
New Delhi, India, 16 August 2021

Report of the meeting