Implementation of WHO guidance on maintaining influenza surveillance and monitoring of SARS-CoV-2 through national surveillance systems during the COVID-19 pandemic in the SEA Region Member States

Virtual regional meeting
New Delhi, India, 13–14 January 2021

Report of the meeting
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<td>EQAP</td>
<td>External Quality Assurance Programme</td>
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<td>GISRS</td>
<td>Global Influenza Surveillance and Response System</td>
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<td>GSD</td>
<td>genetic sequence data</td>
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<td>ILI</td>
<td>influenza-like illness</td>
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<td>NIC</td>
<td>National Influenza Centre</td>
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<td>SARI</td>
<td>severe acute respiratory illness</td>
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<td>SEA</td>
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<td>VIDRL</td>
<td>Victoria Infectious Diseases Reference Laboratory</td>
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1. Introduction

A decade of pandemic influenza preparedness (PIP) in the WHO South-East Asia Region helped Member States to strengthen their national influenza surveillance systems and virus detection capacity. However, health systems were overwhelmed by the COVID-19 pandemic and this negatively affected influenza surveillance, laboratory diagnosis, influenza virus sharing and data reporting to the global platforms in the Member States of the Region.

This situation presents a threat to regional health security due to the possibility of missing detection of influenza viruses of pandemic potential and the resultant burden on health systems of undetected influenza outbreaks.

Given that the both diseases are respiratory-borne infections, it would have been possible to create synergies between influenza and severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) surveillance, testing, virus isolation and sharing for molecular diagnosis.

Considering the above factors and the requirement for synergies in influenza surveillance in the context of the COVID pandemic and following an e-consultation of experts from all the six WHO regions, the Global Influenza Programme (GIP) developed an interim guidance on maintaining surveillance of influenza and monitoring of SARS-CoV-2 by adapting national sentinel systems during the ongoing COVID-19 pandemic.

In order to stimulate countries to effectively and timely adapt and implement recommendations of this WHO guidance, and following the guidance of the GIP and the Global Influenza Surveillance and Response System (GISRS), the Infectious Hazards Management (IHM) unit of WHO’s Health Emergencies Programme (WHE) at the South-East Asia Regional Office in New Delhi at organized a virtual “Regional Meeting on Implementation of WHO guidance on maintaining influenza surveillance and monitoring of SARS-CoV-2 through national sentinel surveillance systems during the COVID-19 pandemic in the SEA Region Member States” on 13–14 January 2021.

2. Objectives of the meeting

The general objective of the meeting was to consult Member States of the WHO South-East Asia (SEA) Region on the implementation of the WHO interim guidance on maintaining sentinel surveillance of influenza and using influenza sentinel surveillance systems for monitoring SARS-CoV-2 through national sentinel surveillance systems in the context of the COVID-19 pandemic.

The specific objectives of the meeting were to:

(1) provide a general overview and key recommendations of the interim guidance on maintaining surveillance of influenza and monitoring SARS-CoV-2 through the national sentinel surveillance systems;
(2) discuss best ways to implement WHO’s surveillance standards as recommended in the interim guidance to Member States from WHO SEA Region and agree on a plan for optimal maintenance of influenza sentinel surveillance and monitoring of SARS-CoV-2 through the influenza sentinel surveillance system;

(3) discuss practical challenges of laboratory diagnosis for influenza surveillance during the COVID-19 pandemic and agree on minimum steps to ensure adherence to the WHO recommended standards;

(4) discuss issues and agree on a plan for influenza virus sharing with WHO collaboration centres (WHO CCs) for the influenza vaccine composition meetings scheduled for February 2021 and September 2021; and to agree on a plan for consistent and regular influenza epidemiological and laboratory data-sharing through the global platform (FluMart) by Member States of the WHO SEA Region.

3. Meeting proceedings

Dr Jos Vandelaer, Regional Emergency Director at the WHO Regional Office for South-East Asia, welcomed the participants and opened the meeting. Dr Jos Vandelaer delivered the message of Dr Poonam Khetrapal Singh, WHO Regional Director, who could not attend due to prior commitments, on her behalf. The text of the Regional Director’s message is placed in Annex 1. Dr Vandelaer concurred with the Regional Director’s views and wished participants successful deliberations on useful recommendations to restore influenza surveillance activities to pre-COVID-19 levels following the disruption caused by the pandemic in 2020 in the Region.

Dr Pushpa Ranjan Wijesinghe, Programme Area Manager for Infectious Hazard Management (IHM) at the Regional Office, explained the objectives of and expected outcomes from the meeting. Following this, the business proceedings of the virtual session commenced with different modules each with a particular participant acting as Chair, as enumerated hereinafter.

3.1 Session I: Disruptions and extending influenza sentinel surveillance to COVID-19

Chair: Dr Ibrahim Afzal, Head of disease surveillance, Health Protection Agency, Ministry of Health, Maldives.
Addressing disruptions in influenza sentinel surveillance systems and practical considerations for extending influenza sentinel surveillance to COVID-19:
Recommendations of the interim guidance
Presentation by Dr Aspen Hammond of WHO’s Global Immunization Programme (GIP)

The first session focused on recommendations of the interim guidance that was released in November 2020. Dr Hammond highlighted the available opportunities to utilize existing influenza-like illness (ILI)/severe acute respiratory infection (SARI) surveillance systems for COVID-19 by integrating them into the current systems. It is important to monitor
community trends and ensure that other respiratory diseases are being monitored in real time. The disruptions to influenza surveillance were due to the impact of the COVID-19 pandemic including lockdown measures, changes in surveillance case definitions, and health-care systems featuring surveillance systems that focused solely on COVID-19.

The interim guidance stressed on the need for countries to assess and address disruptions to national influenza sentinel surveillance systems. It also outlines the need for testing specimens from ILI/SARI sentinel surveillance sites for both influenza and SARS-CoV-2 viruses. It also focuses on the utility of multiplex polymerase chain reaction (PCR) assays for simultaneous detection of both influenza and SARS-CoV-2 viruses, ensuring a more resource-efficient use of reagents, consumables and hands-on time. Dr Aspen also stated that the reporting of weekly aggregated sentinel surveillance data for decision-making at the country, regional and global levels is a critical component of both ILI/SARI surveillance as well as for SARS-CoV-2.

Participants were reminded that sentinel surveillance sites should collect at least 50 to 100 sentinel specimens (ideally 150 specimens per week), and dispatch them to the national influenza centre (NIC) or the national reference laboratory (NRL) for influenza and SARS-CoV-2.

Dr Hammond stressed the need for a proper surveillance case definition. He informed that as per the objectives of the ILI/SARI sentinel surveillance, such sites do not necessarily need detection of all cases but detection of only those that are able to describe trends in cases over time.

Concluding the presentation, Dr Aspen stated that there is a need to prioritize influenza surveillance in the 6–12 months subsequent to the meeting in 2021 and determine what resources and capacity are available and required in order to make the necessary adaptations to meet the set priority objectives.

**Key messages**

**COVID-19**

Sentinel surveillance for COVID-19 with a standardized approach for laboratory testing is complementary to other types of surveillance for COVID-19. This approach is cost-effective and efficient.

The existing stable, syndromic national ILI and SARI surveillance systems could be strengthened and utilized for monitoring epidemiological trends of COVID-19 over time. Epidemiological and virological surveillance are complementary and there is a need for laboratory testing of all or a subset of samples collected from patients enrolled for surveillance at ILI/SARI sentinel surveillance sites.

**Influenza surveillance**

There have been disruptions to influenza surveillance due to the COVID-19 pandemic in some Member States in the SEA Region. Influenza surveillance seems to have been
Implementation of WHO guidance on maintaining influenza surveillance and monitoring of SARS-CoV-2 through national surveillance systems during the COVID-19 pandemic in the SEA Region Member States

deprioritized (enrolling, sample collection, laboratory testing and reporting) in the context of the COVID-19 pandemic. This has resulted in disruptions in the functioning of national syndromic surveillance systems (ILI/SARI and acute respiratory infections).

There is also the need to remain vigilant. The observations from ILI/SARI surveillance in 2020 indicate that the reported seasonal influenza activity was low in the Region. Nonetheless, the virus was continuing to circulate though with lesser intensity; the picture of seasonality was atypical. Zoonotic influenza infections continued to be detected. Therefore, it is evident that the threat of emergence of influenza viruses of pandemic potential continues to persist.

3.2 Converting the national influenza sentinel surveillance system to an integrated national influenza and COVID-19 surveillance system in Bhutan: Lessons learned during the COVID-19 pandemic

Presentation by Mr Binay Thapa, Chief Laboratory Officer, Royal Centre for Disease Control (RCDC), Ministry of Health, Bhutan

Bhutan has 11 sentinel sites for conducting SARI syndromic surveillance and seven sentinel sites for ILI syndromic surveillance. Bhutan highlighted factors that adversely affected ILI/SARI surveillance in the country in 2020 in the context of the COVID-19 pandemic. These were attributed to COVID-19 testing activities overwhelming all other health priorities and inadequate knowledge of health workers on revised guidelines of influenza surveillance in the context of the pandemic.

While highlighting factors that had an adverse effect, Bhutan also stressed upon Bhutan’s strengths and also the benefits they accrued through their association with WHO and the United States Centers for Disease Control, Atlanta (US CDC). They had integrated influenza and SARS-CoV-2 surveillance and had started testing all SARI cases for both influenza and COVID-19. The minimum target for every hospital was to enrol five ILI cases per week for influenza testing. In this process, Bhutan strengthened their integrated influenza and COVID-19 national surveillance system by conducting adequate training sessions on integrated COVID-19 and influenza surveillance.

Key messages

Bhutan demonstrated that influenza sentinel surveillance systems can be integrated with other respiratory-borne infectious diseases as was the case with COVID-19. Such a move enables efficient use of resources in resource-limited settings.

Bhutan looks forward to moving on to the next level of laboratory diagnosis by building capacities for molecular diagnosis of influenza and other respiratory viruses.
3.3 Extending influenza sentinel surveillance to an integrated national influenza and COVID-19 surveillance system: Issues and challenges encountered by Myanmar

Presentation by Dr Khin Khin Gyi, Programme Manager (PIP), Director, Emerging & Re-emerging Infectious Diseases, Central Epidemiological Unit, Department of Public Health, Ministry of Health and Sports (MoHS), Myanmar

Since 2018, ILI and SARI sentinel surveillance has been implemented across eight hospitals and in the general practice with the involvement of two general practitioners (GPs) supported by WHO. They were actively collaborating as a network partner with the Global Influenza Surveillance and Response System (GISRS) through the sharing of influenza virological data and information.

In the context of COVID-19, Myanmar started using the existing ILI/SARI sentinel surveillance system for intensified COVID-19 case-finding. Myanmar started testing all ILI/SARI samples for both COVID-19 and influenza viruses. Myanmar also agreed to share COVID-19 data through FluNet. Furthermore, Myanmar highlighted key recommendations that were made during the virtual national meeting held in November 2020 between MoHS, the WHO Regional Office for South-East Asia (SEARO) and the WHO Country Office.

The objective of that meeting was to consider options for re-strengthening ILI and SARI sentinel surveillance for both influenza and COVID-19 in the context of the pandemic. The meeting participants agreed to maintain ILI-SARI sentinel surveillance by testing 50–100 samples per week, adopt a two pronged approach to reach this target by either testing COVID-19 negative samples from patients meeting ILI/SARI case definitions for influenza testing or collecting samples from patients with symptoms compatible with ILI or SARI case definitions from non-sentinel surveillance sites. They were also encouraged to use Multiplex kits as soon as they would be available for surveillance purposes to reduce the testing burden on the overstretched laboratory staff.

Key messages:

Learning from best practices, innovation and their initiation, and their coordination is key to overcome challenges posed and burden imposed by outbreaks such as the COVID-19 pandemic on existing ILI/SARI sentinel surveillance for the purpose of resuming, sustaining, optimizing and use for surveillance of both influenza and other respiratory-borne infections such as COVID-19.

3.4 Discussions

All participants shared the best practices for implementation and practical considerations of the WHO guidance on maintaining influenza surveillance and monitoring of SARS-CoV-2 through national surveillance systems during the COVID-19 pandemic.

Participants from different settings highlighted various challenges that Member States encountered in continuing and optimizing ILI/SARI sentinel surveillance. While highlighting
the need for sustaining routine influenza sentinel surveillance, participants listed challenges in obtaining specimens for laboratory testing due to reduction in the number of ILI cases seeking treatment and implementation of public health and social measures.

Acknowledging the importance of collecting the minimum level of 50–100 samples per week for laboratory testing for influenza, participants discussed the pros and cons and feasibility of using the two-pronged strategy by either testing COVID-19-negative samples from patients meeting ILI/SARI case definitions for influenza testing or collecting samples from patients with symptoms compatible with ILI or SARI case definitions from non-sentinel surveillance sites.

Participants stressed the value of using multiplex real-time reverse transcription polymerase chain reaction (RT-PCR) for testing for SARS-Cov-2 and influenza in settings with overburdened laboratories. They highlighted the need for continued support from WHO and/or partners for effective implementation of generating good-quality data for predictive modelling for influenza, following WHO guidelines on case definitions for conducting ILI/SARI sentinel surveillance and retrospectively testing COVID-19 negative samples for influenza.

4. Session II: Data collection, analysis and reporting of influenza data

Chair: Timor-Leste (Mrs Maria Angela Varela Niha, - National Professional Officer, WHO Timor Leste)

(i) Data reporting and analysis at the national level and reporting to the global data sharing platform: Key considerations and recommendations of the WHO interim guidance

Presented by Dr Aspen Hammond, Global Influenza Programme of WHO

Dr Hammond stressed the need for consistency in reporting data from sentinel surveillance sites. The collection and reporting of denominator information should be prioritized. All reports preferably may include a summary interpretation with graphs, if possible, to support the interpretation.

Dr Hammond highlighted the importance of the data analysis plan that should include objectives for influenza surveillance, quality of data, changes in practices of sampling patients and changes in testing strategies/algorithms. Similarly, for COVID-19 data reporting, additional considerations may include procedures for routinely reporting analysed data (information) to authorities managing the response, and the procedures and actions that need to be taken when a SARS-CoV-2-positive result is detected in a sample obtained from a sentinel surveillance site. All Member countries are encouraged to report ILI/SARI/ARS syndromic surveillance data, influenza laboratory testing data (both sentinel and non-sentinel, separately), COVID-19 laboratory testing data and laboratory results of coinfections with influenza and SARS-CoV-2 viruses. She emphasized the need for uploading data on FLUMART, the global data-sharing platform, on a weekly basis.
Key messages

Continued reporting of epidemiological data: Report ILI, SARI sentinel surveillance data, with denominators, age-specific information and, where possible, by influenza virus types. At a minimum, it is advisable to report the weekly number of samples that tested positive and negative for influenza on a regular basis (disaggregation of sentinel surveillance data from non-sentinel surveillance data is recommended if possible).

If surveillance samples are tested for SARS-CoV-2 viruses, reporting positives and negatives (or total number of samples tested) is advisable.

(ii) Collection, analysis and reporting of ILI/SARI data in the context of COVID-19 in Thailand: Issues, challenges and key lessons learned

Presented by Dr Suchinda Muangnoicharoen Hearn, Division of Epidemiology, Ministry of Public Health (MoPH), Thailand

Thailand has been involved in both ILI/SARI syndromic surveillance for a considerable period of time. Samples are collected through 42 hospitals in 27 provinces covering all regions of the country. All data are reported on a weekly basis. In 2020, there was disruption in monitoring influenza surveillance due to the COVID-19 pandemic. Therefore, at a meeting with all relevant stakeholders of ILI/SARI surveillance (the Department of Disease Control, Thai National Institute of Health, and the Thai MoPH–US CDC collaboration), it was decided to include data from other acute respiratory illness surveillance projects from different hospitals into ILI/SARI surveillance.

A multidisciplinary approach for data use was adopted by the collaborating partners that resulted in cooperation between medical professionals, epidemiologists, virologists, public health officials and scientists. It was assumed that such collaborations would help these multistakeholders make evidence-based and timely, informed decisions. Thailand plans to integrate COVID-19 into their influenza sentinel surveillance. The country also plans to strengthen public health laboratory surveillance at the regional level by increasing sentinel surveillance sites for influenza and allocating adequate resources to regional laboratories.

Key messages

There is a need for strengthening public health laboratory surveillance in all the regions in Thailand. This process can be supported by increasing the number of sentinel surveillance sites for influenza and allocating more resources to the Thai regional laboratories.

(iii) Influenza data reporting to and analysis at the national level, and reporting to FluMart by Indonesia: General and specific challenges in the context of COVID-19

Presented by Dr Vivi Setiawaty, Head of the Biomedical and Basic Health Technology Section, Ministry of Health (MoH), Indonesia

In addition to the existing ILI/SARI surveillance sites, Indonesia has established five new ILI sentinel surveillance sites and eight new SARI surveillance sentinel sites. In her presentation, Dr Setiawaty highlighted how COVID-19 monitoring occurs through the ILI and SARI
sentinel surveillance system in the country. In these sentinel surveillance sites, all samples collected for ILI/SARI surveillance are tested for COVID-19 and Influenza.

**Fig. 1. Issues related to data collection at sentinel surveillance sites, reporting to and analysis at the national level and data-sharing with the global data platforms**

Clinical-epidemiological data are collected from the ILI/SARI sentinel surveillance sites and reported to the national level. Data are collected and analysed at the national level and disseminated through a monthly bulletin. The information thus generated is used to monitor trends of influenza and COVID-19. The information generated is reported to FluMart.

In view of the COVID-19 pandemic, Indonesia conducted a technical meeting with representatives from SARI/ILI sentinel surveillance sites and decided to procure reagents early and ship samples to the National Influenza Centre and WHO collaborating centres for timely generation of laboratory information for decision-making and sharing with the global data platforms.

**Key messages**

Reduced number of outpatient consultations during the pandemic, issues related to healthcare workers, lack of personal protective equipment and overwhelmed laboratories contribute to reduced collection of samples at sentinel surveillance sites. Transportation of samples from sentinel surveillance sites was also affected by the social restriction measures and the related costs spiralled.

As a result of the reduced number of samples processed, interpretation of laboratory test results for influenza will have to be performed with caution. Delays in receiving samples and testing have resulted in late reporting to the global data-sharing platform. COVID-19 laboratory data reported to the GISRS platform from Indonesia got delayed in being reflected in the GISRS’s Flu/COVID-Mart.
4.1 Discussions

When reporting influenza and COVID-19 data, it was suggested that disaggregated (sentinel versus non-sentinel) data be reported to the maximum possible extent. The discussions highlighted the importance of reporting both laboratory and epidemiological data for both pathogens.

The discussions also focused on how the potential of influenza transmission could be masked by low numbers of samples tested for influenza and influenza data reported to the global platform in the wake of the COVID-19 pandemic. It reiterated the need for conducting surveillance for both pathogens.

The underlining theme of the discussion invariably was the need for uninterrupted influenza surveillance with timely data reporting to the national level for decision-making at the local level and to the global and regional platforms for decisions on a global and regional level.

The Global Influenza Programme and participants from the WHO collaborating centres discussed the need for adhering to a minimum number of samples selected per week for testing. It was decided that a minimum of 50–100 samples per a week is preferable though 150 per a week is ideal.

5. Session III: Considerations and practical challenges of laboratory diagnostics for surveillance in the context of COVID-19

Chair: Dr Vijith Gunasekara, Director (Laboratory Services), Ministry of Health, Sri Lanka.

5.1 Laboratory component of maintaining influenza surveillance during COVID-19 – recommendations from the interim guidance

Presented by Dr Dmitriy Pereyaslov, Laboratory Team Lead, Global Influenza Programme, WHO headquarters, Geneva

According to Dr Pereyaslov, by 2020 there were 146 national influenza centres globally. He emphasized the need for sharing genetic sequence data (GSD) with a global database for public use. This is necessary due to their critical importance for diagnostics development, risk assessment and also to ensure access to these genetic resources and sharing the benefits arising from their use.

Dr Pereyaslov said the need of the hour was quality laboratory data, which can be achieved through participation in an external quality assessment programme (EQAP). He informed that globally, a total of 164 countries (233 laboratories) participated in the global EQAP Programme. As far as results were concerned, 96% of participating laboratories had achieved 100% for COVID-19.
As recommended in the interim guidance, he made the participants aware that at least 50 to 100 specimens per week (ideally 150 specimens) per NIC or NRL need to be collected for testing influenza and SARS-CoV-2 viruses optimally. Specimens from individuals of all age groups and all geographical regions of the country could be collected. In case the requisite number of samples cannot be obtained from sentinel surveillance sites, countries may consider selecting a subset of SARS-CoV-2-negative specimens of patients meeting with the ILI/SARI surveillance case definition for influenza testing or/and selecting specimens meeting such case definition from non-sentinel surveillance.

Dr Pereyaslov explained the types of samples recommended to be collected for both influenza and SARS-CoV-2 testing. Saliva, pooling of samples and heat treatment are not recommended. The samples must be shipped as early as possible to the laboratory by adhering to local and international guidelines. Good microbiological practice and procedures (GMPP) must be adhered to in handling all samples. All samples for SARS-CoV-2 must be handled at Biosafety level-2 safeguards.

If laboratories are attempting to culture influenza viruses, clinical specimens should be tested for SARS-CoV-2; and SARS-CoV-2-negative samples that are positive for influenza A H1N1pdm09, H3 or influenza B can be considered for virus isolation.

All laboratory results will have to be reported in a timely manner to national authorities. It is advisable that the summary results of testing be shared with WHO through the global data-sharing platform or through regional databases (if any) in WHO regional offices linked with the global data-sharing platform. The FluMart database has been adjusted in a manner enabling SARS-CoV-2 results to be uploaded along with the required metadata. Statistics of weekly total numbers of samples from sentinel sites tested positive and negative for influenza with their subtypes, and those tested positive and negative for SARS-COV-2, can be obtained from the FluMart database.

The real-time reverse transcription polymerase chain reaction (RT-PCR) is the gold standard for detection of SARS-CoV-2. He also highlighted that rapid antigen tests (point-of-care/bedside tests) are not recommended for influenza testing at the NICs. Ideally, testing for influenza and SARS-CoV-2 should be run in parallel (multiplex), though this may not always be possible due to lack of multiplex assays in laboratories. Therefore, laboratories must decide the sequence of testing: testing of either influenza viruses or SARS-CoV-2 as the first line of testing depending on the epidemiological situation for COVID-19, available resources, and recommendations in the national guidance.

It is important to continue to perform subtyping/lineage determination for all influenza-positive specimens and be vigilant for emergence of influenza viruses of pandemic potential. The other point stressed was the importance of timely shipping of representative influenza viruses and/or clinical specimens to WHO collaborating centres according to existing WHO guidelines. He requested the Member countries to participate in the WHO external quality assessment programme for influenza and SARS-CoV-2.
**Fig. 2. Testing algorithms for laboratories that test for influenza viruses as a first preference**

**Key messages**

The testing of at least testing 50 to 100 sentinel specimens (ideally 150 specimens) per week per NIC or NRL for influenza and SARS-CoV-2 will have to be performed.

It is necessary to report the weekly total number of sentinel surveillance samples tested positive and negative for influenza with their subtypes, and samples tested positive and negative for SARS-CoV-2.

To reduce the burden on the laboratory staff, establishing parallel testing for influenza and SARS-CoV-2 (multiplex assays) is a solution. Countries are encouraged to participate in WHO external quality assessment programme for influenza and SARS-CoV-2 for ensuring quality laboratory data.

**5.2 Regional Laboratory status update and challenges encountered:**

**Mr Francis Inbanathan, Technical Officer (Laboratory), High-threat Pathogens**

This presentation informed that 3400 laboratories are currently performing real-time PCR for COVID-19. While NICs lead the COVID-19 response in most countries, rapid decentralization of PCR capacity has been observed in the Region.

It was demonstrated that there was 100% participation in EQAP during 2019. However, there was only 90% participation in 2020. It is noteworthy to mention that
shortages of manpower and supplies and the impact of lockdowns could have led to reduced focus on influenza surveillance.

The results of the survey on influenza and SARS-CoV-2 testing conducted by the Regional Office were shared. It shed light on protocols followed by countries in the SEA Region for testing samples for SARS-CoV-2 collected from influenza sentinel surveillance sites. Only one country was using multiplex assay through an in-house kit. Except for four countries, others had already placed procurement orders for multiplex assays. Three countries were testing for SARS-CoV-2 at the subnational level while four countries had decentralized influenza testing to the subnational level. Another four countries had plans for decentralization of influenza testing. Three countries were using subnational-level laboratories for screening/testing for SARS-CoV-2.

Mr Inbanathan listed the major challenges faced in sustaining influenza testing:

1. Prioritization of COVID-19 over influenza surveillance.
2. Overwhelming burden on national influenza centres or public health laboratories over testing for COVID-19.
3. Manpower and supply issues.
4. Nationwide lockdowns hampering sample transportation from sentinel sites to the NICs.
5. Other competing priorities at sentinel sites interfering with patient enrolment, sample collection and transportation.
6. The majority of suspected cases of COVID-19 referred to not fitting into the ILI case definition due to them being asymptomatic.
7. Most samples received at NICs being not from patients but from contacts who were quarantined.
8. Non-admission of SARI cases in hospitals other than those dedicated for COVID-19 due to fear of infection.

5.3 CDC multiplex assay: Technical aspects, IRR supply update and plans for supply during 2021

Presented by Dr Ashwin Belludi, US Centers for Disease Control (CDC), India Office

Dr Ashwin introduced the CDC’s influenza and SARS-CoV-2 (Flu SC2) multiplex assay to the audience. He informed that the United States Food and Drug Administration (US-FDA) provided emergency use authorization (EUA) to the Flu SC2 Multiplex Assay. This assay enables simultaneous qualitative detection and differentiation of SARS-CoV-2, influenza A and influenza B viral ribonucleic acid (RNA) through real-time PCR testing. Both upper and lower respiratory tract samples can be tested by this assay.

This multiplex assay has a 100% detection rate and the lower limit of detection rate is comparable to that of the distinct uniplex real-time RT-PCR. It was informed that the assays
are being prioritized for NIC and public health laboratories (PHL) of global importance. He informed that each laboratory would be able to request up to 5 kits (500 reactions/kit) through the US CDC. He added that some laboratories were eligible to receive extraction kits and enzymes through the WHO’s Global Influenza Programme. It was announced that eligible laboratories in the WHO South-East Asia Region would be communicated about receiving the allocated number of kits through the WHO Regional Office.

**Key messages**

COVID-19 has offered limitless opportunities for innovations in the field of laboratory diagnostics. In this context, multiplex assays would help testing for important pathogens including SARS-CoV-2 together with influenza without additionally overburdening laboratories in countries.

Integration of COVID-19 testing into the existing influenza surveillance network will help sustain influenza testing at the minimum expected level while continuing to respond to the COVID-19 pandemic.

Multiplex assays are being prioritized for NIC and public health laboratories (PHL) of global importance. Laboratories selected to receive multiplex assays would be informed through the WHO Regional Office.

5.4 **Sharing of country successes: Decentralization of subnational laboratory for COVID-19 and leveraging the system for influenza**

*Presented by Dr Runa Jha, Director, National Public Health Laboratory, Nepal*

Dr Runa Jha enumerated the structural organization of influenza surveillance in Nepal. With the onset of the COVID-19 pandemic, Nepal expanded its molecular diagnostic testing capacity for detection of SARS-CoV-2 virus. She explained how Nepal strengthens surveillance of other respiratory pathogens such as respiratory syncytial viruses (RSV) using the influenza surveillance network.

It was highlighted that training, proficiency testing and onsite reviews have ensured continuous improvement of quality of surveillance in the influenza surveillance network in Nepal. Nepal is also leveraging the national influenza surveillance network to expand influenza surveillance to the provincial level. They have already established a five-point quality assurance programme for improving quality of laboratories performing testing for both SARS-CoV-2 and influenza viruses.

Most of the laboratories in the national influenza surveillance network achieved 90–100% concordance for SARS-CoV-2 testing with proficiency testing panels. She highlighted the practical challenges that were faced due to the COVID-19 pandemic. Infrastructure issues, issues related to linking epidemiological and laboratory data, and availability of adequately trained manpower were cited as the major challenges in Nepal. COVID-19 surveillance has been integrated into the national influenza surveillance system in Nepal. Also highlighted was the use of influenza-SARS-CoV-2 PCR multiplex assays for surveillance of influenza and SARS-CoV-2.
**Key messages**

Nepal has planned to integrate provincial public health laboratories (PPHL) to the national laboratory network for surveillance of influenza and other respiratory pathogens. Plans are underway to expand ILI/SARI sentinel surveillance sites to the provinces and link them with PPHLs.

Enhancing laboratory capacity for molecular testing is a critical component for strengthening Nepal’s preparedness and response for influenza and other high-threat infectious hazards. Already the laboratories in Nepal are using influenza-SARS-CoV-2 PCR multiplex assays.

### 5.5 Country experience with challenges: Sustaining influenza testing during the COVID-19 pandemic – key challenges and issues

**Presented by Prof. Dr Tahmina Shirin, Director, IEDCR (NIC), MoH, Bangladesh**

Professor Tahmina Shirin presented her country’s experience and challenges encountered during the COVID-19 pandemic. The National Influenza Centre in Bangladesh was designated in 2007. The Institute of Epidemiology, Disease Control & Research (IEDCR), which also houses the National Influenza Centre, is responsible for influenza sentinel surveillance with 10 ILI and SARI sentinel surveillance sites (eight district hospitals across Bangladesh and two tertiary hospitals).

Samples collected from ILI and SARI cases enrolled for surveillance are tested for influenza. IEDCR (NIC) is the reference laboratory for performing real-time PCR. During the COVID-19 pandemic, Bangladesh has been leveraging the influenza surveillance platform to identify and enrol suspected COVID-19 cases, and collect and transport samples to COVID-19 testing laboratories. All samples collected from ILI/SARI sentinel sites are now tested for both SARS-CoV-2 and influenza viruses.

Among activities targeting quality improvement of influenza sentinel surveillance, personnel at sentinel surveillance sites in Bangladesh are provided with training on strengthening ILI/SARI surveillance in general and in the context of the COVID-19 pandemic in particular. Efforts are being made to strengthen laboratory capacity of the NIC to diagnose influenza and SARS-CoV-2 viruses.

Bangladesh conveyed that it would continue to work towards sharing influenza viruses with WHO collaborating centres for the WHO meeting on composition of influenza vaccines in September 2021.

In her presentation, Professor Thamina highlighted challenges to sustain influenza surveillance such as limited manpower and issues related to transportation issues when all focus was on detection of SARS-CoV-2 virus. Due to this, Bangladesh was unable to share influenza data through WHO’s global data-sharing platform. Also highlighted was the fact that personnel at sentinel surveillance sites were repurposed to COVID-19-dedicated facilities, and it hampered the process of sample collection for influenza surveillance.
To resolve this issue, Bangladesh organized biweekly meetings with a core group of influenza surveillance officers with a view to analysing the situation, finding potential solutions, regularly monitoring data collection and providing feedback to sentinel surveillance sites. This methodological approach helped Bangladesh in enhancing surveillance, collecting samples and testing under difficult circumstances, identifying circulating strains and in virus isolation, and sharing them with WHO collaborating centres for vaccine strain selection in the WHO meeting on composition of influenza vaccines in September (2021).

**Key messages:**

Despite the negative impact of the COVID-19 pandemic on influenza surveillance, Bangladesh has taken measures to enhance ILI and SARI surveillance in the country. Samples are now tested for both SARS-CoV-2 and influenza viruses.

This was achieved as a result of the biweekly meetings organized with a core group of influenza surveillance officers with a view to analyse the situation, find potential solutions, regularly monitor data collection and provide feedback to sentinel surveillance sites.

Training for personnel at sentinel sites, efforts to strengthen laboratory capacity of the NIC to diagnose influenza and SARS-CoV-2 viruses, and improvements in influenza data-sharing with the global data-sharing platform have been prioritized. Despite the low yield, Bangladesh is working towards sharing influenza viruses for dissemination at the meeting on vaccine composition scheduled for September 2021.

**5.6 Key points that emerged in the discussions involving participants from Member States, WHO and partners at the end of Session III**

**The way forward in 2021**

The discussions focused on whether all Member States can perform multiplex assays for COVID-19 and influenza. Most of the Member States agreed to perform multiplex testing. Participants stressed the need for a training on the use of the WHO online laboratory quality assessment tool. It was stressed that the multiplex assays are only for surveillance purposes and not for diagnostic use.

Countries elaborated on the need for continuous efforts to further strengthen influenza surveillance networks in the WHO South-East Asia Region and requested the Global Influenza Programme and the Regional Office to actively engage with Member States in this regard.
6.  Session IV

6.1 Virus sharing for February and September 2021 VCM meetings: Issues, challenges and plan for 2021

*Chaired by Professor Kanta Subbarao, Director, WHO CC for Reference and Research on Influenza, Victorian Infectious Diseases Reference Laboratory (VIDRL), Australia*

**Virus-sharing: South-East Asia regional update, key issues and challenges encountered.**  
**Presentation by Dr Ian Barr, Deputy Director, WHO Collaborating Centre for Reference and Research on Influenza**

Dr Ian Barr explained that the objectives of this session were to discuss virus-sharing with WHO CCs, and consider how it is possible under current circumstances to increase the number of samples/virus isolates that would be shared with WHO CCs for analysis before the scheduled vaccine composition meetings. He informed that the February meeting was for the “Influenza vaccines for the Northern Hemisphere season (2021-22)” while the September meeting was for Influenza vaccines for the “Southern Hemisphere season (2022)”.

It was brought to the notice that all countries in the SEA Region except Indonesia and Sri Lanka have a Southern Hemisphere vaccine recommendation. Time was limited for many countries in the SEA Region in terms of virus transmission. Therefore, it was necessary to look at ways to increase the number of viruses isolated and shared with WHO CCs.

Against this background, Mr Francis Inbanathan provided the regional update on key issues and challenges encountered in virus-sharing by Member States in the SEA Region. There were 16 shipments in 2019 and 15 in 2020. No shipments had been made during February to August 2020. Not having viruses/isolates to be shipped, the absence of seasonal or periodic representativeness during the lockdown periods, difficulty in virus isolation with the high workload, pending of subtyping (specimens were collected but not processed) and the low priority accorded for influenza virus isolation and shipping were stated as the key issues and challenges.

Professor Barr elucidated on the virus-sharing landscape in countries in South-East Asia. He highlighted that some countries (Sri Lanka, Bhutan, Maldives and Myanmar) had no Influenza viruses while others (India, Nepal, Thailand, Timor-Leste, Indonesia and Bangladesh) had some Influenza viruses according to the data reported to FluNet. He requested countries to share some specimens to WHO collaborating centres even if they are very few in number.

He highlighted the need for testing substantial numbers of specimens to get even a small number of isolates. He also explained how “seasonality” had altered due to COVID-19 restrictions explaining the lack of periodic/seasonal representativeness and said that it may continue for another year or so. He wanted to know if countries have set aside virus isolations in the context of COVID-19 or if they wanted to ship the original clinical sample to WHO CCs for virus isolation to be conducted therein.
The representative from Indonesia explained that Influenza virus isolation practices have been affected by the isolation of the SARS-CoV-2 viruses. But they expect to continue the isolation of influenza viruses and share the results with WHO collaborating centres. Professor Barr informed that specimens more than six months old do not warrant isolation efforts for the upcoming meetings on vaccine composition. He also mentioned the need for selection of appropriate virus transport media (VTM) as some media selectively kill influenza viruses to keep the SARS-CoV-2 strain intact. Therefore, selection of VTMs for virus isolation is essential for this purpose.

Dr Barr also touched upon the issue of non-sub-typing. He suggested the possibility of shipping without sub-typing in the event of difficulties and stated that WHO CCs would be able to perform sub-typing. WHO CCs would prefer to have COVID-19-negative, influenza-positive samples rather than those testing positive for both.

On the low priority accorded for influenza testing following the outbreak of COVID-19, Dr Barr highlighted the need for more testing when the influenza circulation was very low. For overwhelmed laboratories, he suggested the option of multiplex assays. Nepal was cited as one example of a country that used multiple centres to increase the number of samples tested.

Nepal stressed that though they had increased testing, they would not perform virus cultures at this stage. That is because currently the virus isolation is done at BSL-2 laboratories and there is a fear that SARS-CoV-2 will emerge there during isolation. Dr Barr informed that though SARS-CoV-2 virus may be present they may not grow in large numbers in Madin-Darby Canine Kidney (MDCK) cell lines. Whenever there is molecular diagnosis to indicate that the sample is negative for SARS-CoV-2 but positive for influenza, virus isolation for influenza can be performed confidently. The representative from Myanmar informed that to increase the yield of influenza viruses they intended to test samples with multiplex assays for both viruses throughout the year without being confined to the established seasonality.

The discussion also revolved round the genomic sequencing capacity in the Region. Mr. Francis Inbanathan explained the current genome sequencing and bioinformatics capacity in the WHO South-East Asia Region and the detailed plan for strengthening capacity in the context of COVID-19. Dr Barr suggested that countries utilize current initiatives around genome sequencing for COVID-19 to enhance the overall genome sequencing capacity and application of bioinformatics in the Region.

7. Conclusions and recommendations

7.1 Conclusions

(1) Member States of the WHO South-East Asia Region acknowledged the importance of:

- The maintenance and acceleration of influenza surveillance and monitoring of SARS-CoV-2 through existing national surveillance systems.
Reporting epidemiological and laboratory data pertaining to influenza and SARS-CoV-2 monitored through national sentinel surveillance systems to the global sharing platform (Flumart).

- Optimizing laboratory diagnosis of influenza and SARS-CoV-2 through ILI/SARI surveillance.

- Timely sharing of influenza viruses with the WHO collaborating centres in the GISRS.

(2) The year 2020 was challenging due to the COVID-19 pandemic for a variety of reasons. This included priorities in maintaining routine influenza surveillance. The overall performance of laboratory-assisted influenza sentinel surveillance systems was also significantly affected in the Region in 2020 compared with previous years.

(3) Despite these challenges, Member States in the SEA Region have found ways to strengthen the laboratory-assisted influenza sentinel surveillance systems along with their COVID-19 response in 2020.

(4) In 2021, based on the lessons learned, SEA Region Member States will endeavour to sustain optimal influenza sentinel surveillance and monitor SARS-CoV-2 trends through the influenza surveillance systems.

(5) The sentinel surveillance for COVID-19 is complementary to other surveillance approaches and has the advantage of using a consistent case definition and testing strategy. Hence, COVID-19 surveillance must be implemented with defined objectives, routine monitoring and adequate evaluation of the system.

(6) As an outcome of the regional meeting, Member States agreed to implement surveillance standards recommended in the WHO interim guidance, adopt the minimum steps to ensure adherence to WHO laboratory standards, consistent and timely data-sharing with the global platform, and make plans for influenza virus-sharing with WHO.

(7) WHO’s interim guidance on maintaining surveillance of influenza and monitoring SARS-CoV-2 will be the basis for maintenance and acceleration of laboratory-assisted influenza surveillance, data reporting and virus-sharing with GISRS in the SEA Region.

7.2 Recommendations

(i) Surveillance:

(1) All Member States were recommended to continue maintaining and accelerating influenza surveillance through the existing national sentinel surveillance systems in 2021 in line with WHO’s interim guidance.

(2) Member States should revisit influenza surveillance protocols and systems to assess disruptions. If there are any disruptions, Member States must address specific disruptions, re-examine priority influenza surveillance objectives and
continue surveillance or prioritize sentinel surveillance sites based on available resources, and continue to maintain surveillance in accordance with planned objectives.

(3) All Member States to consider quality over quantity — a system that is stable, efficient and representative to provide years of quality data that can be used to meet various influenza surveillance objectives.

(4) All Member States are requested to endeavour to test a minimum of 100 samples per week for influenza through the national sentinel surveillance system.

(5) For reasons that the minimum number cannot be met, it is recommended to test COVID-19-negative samples compatible with existing ILI/SARI case definitions.

(6) Member States are requested to consider the use of existing sentinel surveillance systems for meeting pre-defined COVID-19 surveillance objectives if the capacity, resources and the surveillance system is stable.

(ii) Data reporting

(1) Member States were recommended to report numbers testing positive for influenza along with type and sub-types weekly to the global data-sharing platform (FluMart).

(2) Member States are requested to report data (numbers tested/positive/types/subtypes) by disaggregating sentinel and non-sentinel sites.

(3) Member States are strongly encouraged to report COVID-19 data through influenza sentinel surveillance systems to FluMart.

(4) Member States reporting epidemiological data to FluMart are requested to continue to report weekly in a consistent manner in 2021, while the remaining Member States are encouraged to report epidemiological data in 2021 at least from a few selected priority sites.

(5) The WHO Regional Office and country offices are recommended to provide technical support to Member States that have started reporting epidemiological data to improve quality of data.

(iii) Laboratory

(1) All Member States are requested to continue with the minimum, essential required quality and biosafety standards as per WHO’s interim guidance and other relevant guidelines testing both influenza and COVID-19. Member States implementing subnational testing for influenza are requested to accord special attention to the testing quality, specimen storage and transportation to the national laboratory.

(2) All Member States are requested to implement multiplex kits for testing both influenza and COVID-19 preferably using the WHO algorithm. This is necessitated due to the ongoing pandemic that has constrained laboratory operations.
(3) Member States are requested to test a minimum of 100 samples per week with a turnaround time of seven days for influenza testing and report to FluNet within one week from the date of testing.

(4) Member States are requested to plan for transporting selected influenza viruses to WHO CCs by 31 January 2021 for the February 2021 VCM and by 15 August 2021 for the September 2021 VCM and seek the support of WHO on this if needed.
Annex 1

Address of Dr Poonam Khetrapal Singh,
WHO Regional Director for South-East Asia

WHO and its Member States in the South-East Asia Region have for more than 12 months been responding to the COVID-19 pandemic. We continue to pull out all stops to control spread, save lives and minimize impact, and continue to protect against existing health threats. One such threat is influenza, which affects every country, and can be severe or fatal for some risk groups.

The co-circulation of SARS-CoV-2 and influenza has the potential to further strain health systems that are already overwhelmed due to the pandemic. As the world races to discover antivirals against SARS-CoV-2, and to roll out COVID-19 vaccines, we can be grateful for the tools we already have against flu, which include effective antivirals and vaccines.

The same public health and social measures that are being implemented to control COVID-19 are equally effective for influenza control.

Globally, the monitoring of seasonal influenza viruses and influenza viruses of pandemic potential is based on data and viruses shared with WHO’s Global Influenza Surveillance and Response System, or GISRS. So too are the recommendations for the composition of influenza vaccines and the development of global policies. The GISRS system has functioned since 1952, and I thank all countries in the Region for participating in and contributing to it.

Over the last decade, significant investments have been made in influenza pandemic preparedness and response and influenza system strengthening. Across the Region, the COVID-19 response has greatly benefited from the readiness of PCR capacity within national influenza laboratories, in addition to the infrastructure and human resources that Member States have built over the course of many years, and to which our partners and collaborating centres have contributed.

But challenges in the overall COVID-19 response persist, as they do for influenza surveillance. In the first quarter of 2020, for example, there was a 79% decline in the testing of samples for influenza viruses. This is reflected globally, with a 62% decrease over the course of 2020 in the number of virus shipments to WHO collaborating centres, and a 94% decrease in the number of influenza viruses with genetic sequence data uploaded to the GISAID database.

These decreases are due to a combination of issues, including the repurposing of staff and supplies, overburdened laboratories and transport restrictions. Such disruptions may have short- and long-term effects, including the loss of capacities to detect and report new influenza viruses with pandemic potential.
Having considered the potential impact such disruptions could have, WHO has developed a policy brief on readiness for influenza amid the pandemic and has also issued interim guidance on how to maintain influenza surveillance while monitoring SARS-CoV-2 through the GISRS.

The challenge before us is to operationalize these recommendations, for which this meeting has been convened. I urge you to make the most of this opportunity and reiterate WHO’s full and ongoing support to Member States in the COVID-19 response, and in enhancing influenza preparedness and response capacity, for a healthier, more secure, Region for all.
Annex 2

Agenda

Day 1: 13 January 2021

Welcome speech by Regional Director, WHO South-East Asia Region

Objectives of the meeting: Regional Emergencies Director, SEARO

Session 1: Disruptions to and extending influenza sentinel surveillance to COVID-19

Session chaired by Maldives

Addressing disruptions in influenza sentinel surveillance systems and Practical considerations for extending influenza sentinel surveillance to COVID-19: Recommendations of the interim guidance: GIP/WHO HQ

Extending influenza sentinel surveillance to integrated national influenza and COVID-19 surveillance: Lessons learned: MoH, Bhutan

Extending influenza sentinel surveillance to COVID-19: Issues and challenges in Myanmar: MoH, Myanmar

Discussion on best ways to implement and practical aspects of optimal maintenance of influenza surveillance in the context of COVID-19 in 2021: All Member States (Moderated by Aspen Hammond, WHO HQ)

Session II: Data collection, analysis and reporting

Session chaired by Timor-Leste

Data reporting and analysis at the national level and reporting to the global platform: Key considerations and recommendations of the interim guidance: GIP/WHO HQ

ILI/SARI data collection, analysis and reporting in the context of COVID-19 in Thailand: Key lessons learned: MoH, Thailand

General issues of influenza data reporting and analysis at the national level, reporting to FluMart and specific issues in the context of COVID-19: MoH, Indonesia

Discussion on best ways to implement and practical aspects of regular and consistent data sharing with the global platform: All Member States (Moderated by Aspen Hammond, WHO HQ)
Day 2: 14 January 2021

Session III: Considerations and practical challenges of laboratory diagnostics for surveillance in the context of COVID-19

Session chaired by NIC, Sri Lanka

Laboratory components influenza surveillance during COVID-19 – Recommendations from the interim guidance: Dr Dmitriy PEREYASLOV, Laboratory Team Lead, Global Influenza Programme, WHO HQ

Regional laboratory status update and challenges encountered: Mr Francis Yesurajan, Laboratory Technical Officer, WHO SEARO

CDC multiplex assay: Technical aspects, IRR supply update and plans for supply in 2021: Dr Ashwin Belludi, Public Health Specialist, US CDC, India

Country experience sharing: Decentralization of subnational laboratory for COVID-19 and leveraging the system for influenza: Dr Runa Jha, Director, National Public Health Laboratory, MoH, Nepal

Country experience sharing (challenges): Sustaining Influenza testing during the pandemic – key challenges and issues: Professor Dr Tahmina Shirin, Director, IEDCR, MoH, Bangladesh

Minimum steps to ensure adherence to the WHO recommended standards for maintaining laboratory diagnosis for influenza surveillance during COVID-19: All Member States (Moderated by Professor Kanta Subbarao, Director, WHO CC for Reference and Research on Influenza, VIDRL, Australia)

Session IV: Virus sharing for February and September 2021 VCM meetings: Issues, challenges and plan for 2021

Sessions chaired by WHO CC - VIDRL

SEARO virus sharing regional update, key issues, challenges encountered: IHM/SEARO

Concluding remarks by IHM-SEARO
Annex 3

List of participants

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Implementation of WHO guidance on maintaining influenza surveillance and monitoring of SARS-CoV-2 through national surveillance systems during the COVID-19 pandemic in the SEA Region Member States

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Implementation of WHO guidance on maintaining influenza surveillance and monitoring of SARS-CoV-2 through national surveillance systems during the COVID-19 pandemic in the SEA Region Member States

Virtual regional meeting
New Delhi, India, 13–14 January 2021

Report of the meeting