Report to the Director-General

Organization and process of the meeting

2. Prior to the meeting, three technical briefings were held for the AG on: 1) 3 March 2022, Proportional division of PIP Partnership Contribution, 2) 4 March 2022, COVID-19 and Influenza, including influenza virus sharing, and 3) 10 March 2022, Technical Briefing for new PIP Advisory Group members.

3. A total of 17 AG members participated in the virtual meeting. Between 12 and 15 members participated in each day of the meeting. The list of AG members who participated in the meeting is available at Annex 1.

4. Dr Sylvie Briand, the Director of the Department of Epidemic and Pandemic Preparedness (EPP), opened the meeting and welcomed all participants. Declarations of Interest were reviewed by the Secretariat and relevant interests were disclosed. The Statement of Declarations of Interest is available at Annex 2.

5. Following the completion of Dr Raymond Lin’s (Singapore) term as Chair and Dr Hamad El-Turabi (Sudan) term as Vice-Chair, Dr Enrique Tayag (Philippines) was selected as the Chair of the AG and Dr Heidi Meyer (Germany) as Vice-Chair.

6. The AG welcomed six new members, Dr Farida Al Hosani (United Arab Emirates), Dr Dimitrijevic Dragana (Serbia), Dr Howard Njoo (Canada), Dr Vivi Setiawaty (Indonesia), Dr Anne von Gottberg(South Africa), Dr Phonepadith Xangsayarath, (Lao People's Democratic Republic).

7. The agenda of the AG meeting was adopted and is available at Annex 3.

8. The Chair informed the AG that observers from the WHO Global Influenza Surveillance and Response System (GISRS) would attend relevant technical sessions of the AG meeting. GISRS observers included representatives from WHO Collaborating Centres (CCs), from an Essential Regulatory Laboratory (ERL), and from National Influenza Centres (NICs).

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1 See https://www.who.int/influenza/gisrs_laboratory/GISRS_representation_20171010.pdf
9. In accordance with its standard practice, the AG convened a consultation with stakeholders on 17 March 2022. The list of participants in the AG meeting and consultation is available at Annex 4.

10. The AG again acknowledged the challenges with the virtual meeting format, including the inability to have side-discussions, facilitation of feedback sessions and having sufficient engagement with all stakeholders.

**Implementation of recommendations from the October 2021 meeting**

11. As in prior meetings, the AG received and reviewed the PIP Secretariat updates on actions taken based on the recommendations from the last AG meeting in October 2021. At the 150th session of the Executive Board in January 2022, the WHO Secretariat informed Member States about the continued disruptions and challenges to seasonal influenza virus sharing, and about the work undertaken, with the support of the PIP AG, to develop potential solutions to address these systemic challenges.

**Broader WHO work on pandemic preparedness and response**

12. The WHO Assistant Director-General (ADG), Emergency Preparedness updated the AG on the status of several initiatives relevant to pandemic preparedness and response.

13. In December 2021, the World Health Assembly at its second special session established an Intergovernmental Negotiating Body (INB) to draft and negotiate a WHO convention, agreement or other international instrument on pandemic prevention, preparedness and response, with a view to adoption under Article 19, or under other provisions of the WHO Constitution as may be deemed appropriate by the INB. The INB has been established and has held its first meeting.

14. The Working Group on Sustainable Financing (WGSF) was established to consider sustainable and predictable financing for WHO as per decision EB148(12). The mandate of the WGSF was extended with a view to having it report to the Seventy-fifth World Health Assembly.

15. The Working Group on Strengthening WHO Preparedness and Response to Health Emergencies (WGPR) continues its consideration of the findings and recommendations of four international panels, taking into account relevant work of WHO, including that stemming from resolution WHA73.1 and decision EB148(12), and will submit a report with proposed actions for the WHO Secretariat, Member States and non-State actors, as appropriate, for consideration by the Seventy-fifth World Health Assembly. The WGPR will include, as part of its ongoing work, dedicated time to allow for discussions on strengthening of the International Health Regulations (2005), including through implementation, compliance and potential amendments.

16. Member State discussions are ongoing regarding the potential establishment of a Standing Committee on Health Emergency (Pandemic) Prevention, Preparedness, and Response (SCPPR). Work is also underway with respect to strengthening the
Global Health Architecture for Emergency Preparedness, Response and Resilience (GHA PRR).

17. The WHO Assistant Director-General, Emergency Preparedness informed the AG that during these processes, the PIP Framework has been referred to as a successful model for preparing and responding to potentially any pandemic.

**Challenges of influenza virus sharing: update on the work of the AGWG**

18. The AG is responsible for monitoring and providing guidance to strengthen the functioning of the WHO GISRS and receives regular briefings on influenza virus sharing activities for both seasonal influenza viruses and influenza viruses of pandemic potential (IVPPs). In previous meetings, the AG has been updated on challenges related to seasonal influenza virus sharing, including the ability of manufacturers to use CVVs developed by GISRS and produce vaccine in a timely manner. This issue may be due in part to the growing number of countries that are implementing national Access and Benefit Sharing (ABS) laws, rules, or regulations, including those implementing the Nagoya Protocol (NP) (together referred to as “ABS/NP”).

19. Because these issues required immediate attention, the AG established a working group (the AGWG) after the October 2021 PIP AG meeting. The AGWG was tasked to explore the options for addressing concerns related to the timely sharing of seasonal influenza viruses with GISRS and/or their potential commercial use.

20. The AGWG is composed of 14 AG members who expressed interest in being part of the AGWG. The AGWG is to develop a report for consideration by the AG, exploring options for addressing concerns related to the timely use of selected seasonal influenza viruses for commercial purposes and proposing a way forward. The AGWG will hold consultations with industry, civil society organizations and GISRS as part of stakeholder engagement designed to get feedback on the options or alternative insights.

21. The Chair of the AGWG provided an update on the AGWG’s work to date and the timeline for activities until the next AG meeting. In his presentation, the AGWG Chair briefly summarised the three options presented at the October 2021 AG meeting that are being considered by the AGWG. These options are:

(a) Option 1: Revise GISRS National Influenza Centre (NIC) Terms of Reference to clarify use of GISRS seasonal influenza CVVs by industry and use of the Seasonal Influenza Material Transfer Agreement (SIMTA) as and when necessary

(b) Option 2: Amend the PIP Framework to include seasonal influenza viruses and thereby provide seasonal influenza viruses with the same legal certainty that applies to IVPPs. The WHA resolution adopting the amended PIP Framework
could also urge WHO Member States to recognize PIP Framework as a specialized international ABS instrument (SII) for ABS/NP purposes.

(c) Option 3: Recognize GISRS as an SII by the WHA.

Public Health Implications of Implementation of the Nagoya Protocol

22. A representative of the Office of the Chief Scientist provided an update on WHO’s continuing work on the public health implications of implementation of the Nagoya Protocol on human pathogen sharing as per decision WHA72(13). Since the October 2021 AG meeting, there have been standard quarterly meetings between WHO and the Secretariat of the Convention on Biological Diversity (SCBD). WHO has sent representatives to NP meetings and there is to be WHO participation in the upcoming COP-MOP (Conference of the Parties to the CDB and Meeting of the Parties of the NP). Also, the Memorandum of Understanding between WHO and the SCBD is being renewed.

Influenza virus sharing

23. The AG received an overview of zoonotic influenza virus sharing including through the influenza virus tracking mechanism (IVTM), for the period 1 March 2021 to 28 February 2022. The AG noted that influenza virus sharing and IVPP reporting were well-sustained and even enhanced despite restrictive pandemic response measures that may have negatively impacted them.

24. The Secretariat explained that some issues in virus sharing were due to understandable reasons. These include the depletion of clinical specimens for confirmatory testing; low viral loads in clinical specimens; transport logistics/travel restrictions due to the COVID-19 pandemic; and national requirements for dangerous pathogens.

Recommendation to the Director-General

25. The AG recommends that the Director-General continue to raise Member States’ awareness of and vigilance for the threat of pandemic influenza, leveraging the lessons learnt from COVID-19 and formalising, advancing, and strengthening integrated surveillance for influenza, SARS-CoV-2, and novel respiratory viruses, through the “GISRS Plus” mechanism.

Q&As with GISRS representatives

26. The AG and GISRS representatives discussed the unique opportunity to apply the lessons learnt from the COVID-19 pandemic and their implications on influenza pandemic preparedness. The Secretariat will provide further information on this topic in future AG meetings.

SMTA2 update

27. The Standard Material Transfer Agreement 2 (SMTA2) is one of the two PIP Framework benefit sharing mechanisms. The Secretariat provided a review of the
SMTA2s, highlighting that a unique feature of these agreements is the commitment by manufacturers to provide real-time access by WHO to future pandemic response products.

28. The AG noted that implementation of Phase 1 of the Secretariat’s SMTA2 strategy resulted in SMTA2 agreements being concluded with the six largest, and eight smaller influenza vaccine manufacturers, which all together represent the majority of current global influenza vaccine production. Phase 2 will include approaching other manufacturers that are developing novel influenza vaccines, using provisions in PIP Framework Section 6 (e.g., 6.11 and 6.14.3.1). The required 4-year review of existing SMTA2 agreements to confirm SMTA2 commitments will also continue.

29. The Secretariat updated the AG that despite several activities undertaken over the past 18 months to better engage with the diagnostic sector, there has been little to no change. Interactions with an industry association of diagnostic manufacturers (AdvaMedDx) led to them consulting with their member companies to try to develop a set of principles on engagement with the PIP Framework and its benefit sharing mechanisms, but they were unable to agree on the principles governing the PIP Framework.

30. The Secretariat is considering several options for next steps that will be developed between now and the next AG meeting. The AG suggested emphasising the role of the diagnostic sector in the COVID-19 pandemic in ongoing interactions with this sector to illustrate their important and ongoing role during a pandemic, particularly in the supply of diagnostic products that rely on use of laboratory specimens through GISRS. Another suggestion was to hold an ad hoc session between the AG and representatives of the diagnostic manufacturers in conjunction with the next PIP AG meeting.

Proportional division of the Partnership Contribution (PC) funds for pandemic preparedness and response

31. The PIP PC is the other key benefit sharing mechanisms of the PIP Framework; in establishing this mechanism, Member States decided that the funds are to be used for two purposes: pandemic preparedness and response. The Secretariat explained that the preparedness funds are used by WHO to fund biennial workplans under High-Level Implementation Plans (HLIP) and the response funds are held in a reserve account that accumulates interest over time so that the funds are immediately available to WHO at the time of the next influenza pandemic.

32. The PIP Framework requires that the Executive Board determine the proportional division of the PC between these two purposes, based on a proposal from the Director-General, further to advice from the AG.

33. The AG reviewed the current proportional division of PC funds of 70% for pandemic preparedness and 30% for response because the current EB decision expires on 31 December 2022.
34. The AG is of the opinion that most of the PC funds should continue to be used for preparedness, given the considerable needs highlighted by the current COVID-19 pandemic.

**Recommendation to the Director-General**

35. The AG recommends to the Director-General that the current proportional division of the PC funds for preparedness and response (70%:30%) be maintained through 2030.

36. The AG also recommends that a portion of PC funds, not exceeding 10%, continue to be directed to the PIP Secretariat to support the work of the Secretariat in implementing the PIP Framework.

37. The AG further recommends that the Director-General should continue to be able to temporarily modify the allocation of the PC as required to respond to a pandemic influenza emergency. Any such modification should be reported by the Director-General to Member States.

**Update on PC and High-Level Implementation Plan (HLIP II) Implementation**

38. The Secretariat provided an update on the collection of the PC, reporting that as of 10 March 2022, the collection of 2020 and 2021 Partner Contribution was 98% and 55% respectively, of the invoiced amount of US$ 28 million per year. The collection for 2021 at this point in the year is consistent with previous years.

39. The Secretariat also provided an update on implementation of HLIP II for 2020-2021 and the AG commended the Secretariat on these achievements. The AG noted the revisions made to HLIP II monitoring and evaluation indicators in line with the mid-term review, that the 2020-21 HLIP II biennial report is being finalized and that the development of HLIP III for 2024-2030 is underway.

40. Enabling factors and challenges of HLIP II implementation during 2020-2021 were also presented by the Secretariat, with many linked to the impact of COVID-19 response. Enablers included increased attention on holistic acute respiratory disease control, commitment to integrate COVID-19 and influenza activities where relevant and an increasing re-focus on preparedness activities. Challenges included the repurposing of staff to the COVID-19 response, fatigue due to these dual roles and the time required to integrate lessons learnt from the COVID-19 response.

41. During the discussion on the HLIP II implementation, the AG discussed the need to continue strengthening the objective that all countries should have improved capacities to conduct effective risk communications at the time of a pandemic. This included issues with “knowledge translation” and the need to strengthen the capacities of scientists and decision-makers to improve communication of evidence-based science.
Updating the level of PC

42. The current level of PC has not been adjusted since the PIP Framework was adopted and is still based on the 2010 estimated running costs of GISRS. At the October 2019 PIP AG meeting, the AG recommended that the Secretariat develop options for updating the PC Level using a sustainable inflationary approach.

43. The consultant that is developing this sustainable inflationary approach updated the AG on the proposed methodology for a tool that will adjust the PC based on:

   (a) the number of GISRS laboratories

   (b) an inflation factor using the World Bank “gross domestic product implicit price deflator”.

44. The Secretariat informed the AG that they will receive an update at the next AG meeting on the progress of this tool.

Consultation with Stakeholders

45. The Chair welcomed stakeholders, thanked them for their ongoing contributions, and provided a brief update on the AG’s work.

46. In their presentation to the AG, representatives from the International Federation of Pharmaceutical Manufacturers & Associations (IFPMA) and Biotechnology Industry Organization (BIO):

   (a) summarised the progress with developing an alternative PC model and informed that the pilot of this new PC model was delayed due to the need of WHO to assess the confidential information requested as part of the model;

   (b) stressed that industry is not supportive of adding seasonal influenza to the PIP Framework to address the issues with virus sharing, but does support the updating of NIC TORs and the use of SIMTAs; and

   (c) queried the use of GSIRS running costs to determine the PC level.

47. A representative from Third World Network (TWN) summarised their views on the options for addressing issues with virus sharing as presented at the October 2021 AG meeting. This included that:

   (a) GSIRS may not meet the standard required to be considered as a SII;

   (b) updating the NIC TORs and use of SIMTAs is a technical solution that does not address the issue of fair and equitable access and benefit sharing; and

   (c) instead of adding seasonal influenza viruses to the PIP Framework, a separate framework should be developed for seasonal influenza viruses modelled on the PIP Framework.
A representative from Louisiana State University (LSU) Health Shreveport shared their lessons learnt from conducting genomic surveillance during the COVID-19 pandemic and suggestions for increasing the timeliness and representativeness of samples collected for genomic surveillance. This included creating an international marketplace where those that share data are adequately remunerated by those that use it.

The Secretariat provided a presentation which covered PC collection and proportional distribution of funds, progress in implementing HLIP II, and the timeline for developing HLIP III for the period 2024-2030. The Regional Office for South East Asia and the Regional Office for the Western Pacific both presented progress on implementation of PIP activities in their regions.

Participants in the consultation discussed the following:

(a) The AG clarified that their role is to provide to the Director-General advice and recommendations for addressing the issues related to influenza virus sharing and that any decisions on implementation would be made by the Director-General. The AG further clarified that the work of the AGWG is in progress and that the AGWG will consult with relevant stakeholders to discuss the options under considerations.

(b) Stakeholders inquired about using a project-based approach to determine the level of the PC rather than using the GISRS running costs as the basis. The Secretariat clarified that it is the PIP Framework itself that sets the PC level at 50% of GISRS running costs. Any change would require an amendment to the PIP Framework by Member States.

(c) The AG clarified that some influenza pandemic preparedness activities are unable to be separated from other pandemic preparedness activities and that the lessons learnt from the COVID-19 pandemic are to be used to strengthen influenza pandemic preparedness.

(d) Stakeholders advocated for an assessment of the impact of HLIP II implementation, as well as the lessons learnt from responding to the COVID-19 response, to inform the development and prioritization of HLIP III objectives.

(e) The Secretariat clarified that the annual cost of pandemic preparedness is likely in the tens of billions and that the current basis for setting the PC level cannot be altered without Member State endorsement; the Secretariat also confirmed that it is keen to move forward with the pilot of the proposed PC formula once data confidentiality issues have been worked through.

Next steps

51. The next PIP Advisory Group meeting will be held the week of 10 October 2022.
Annex 1

Meeting of the Pandemic Influenza Preparedness Framework Advisory Group
14-18 March 2022

List of Advisory Group participants

Dr Roberto Eduardo Arroba Tijerino, Ministerio de Salud, Costa Rica

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

Dr Sulaiman Al Busaidi, Former Director, Central Public Health Laboratory, Ministry of Health, Oman

Dr Farida Ismail Al Hosani, Executive Director Communicable Diseases Sector, Abu Dhabi Public Health Center, UAE

Dr Dragana Dimitrijevic, Institute of Public Health of Serbia, Belgrade, Serbia

Dr Elizabeth Ferdinand, Former Chief Medical Officer (a.i.), Ministry of Health, Barbados

Dr Mohammad-Mehdi Gouya, Assistant Professor, Faculty of Medicine, Iran University of Medical Sciences, Director General of Centre for Disease Control, Ministry of Health and Medical Education, Islamic Republic of Iran

Dr Anne Margareta von Gottberg, Lead, Laboratory, Centre for Respiratory Diseases and Meningitis, Johannesburg, South Africa

Dr Heidi Meyer, Head of Section, International Coordination / Regulatory Service, Paul-Ehrlich-Institut, Germany

Dr Mbayame Ndiaye Niang, former Director of the National Influenza Center at Pasteur institute of Dakar, Senegal

Dr Howard Njoo, Interim Vice President, Infectious Disease Programs Branch, Public Health Agency of Canada, Ottawa, Canada

Professor Soe Lwin Nyein, Department of Public Health, Ministry of Health and Sports, Myanmar

Professor Lokman Hakim Bin Sulaiman, Professor of Public Health, International Medical University, Malaysia

Dr Vivi Setiawaty, Center for Research and Development of Biomedical and Basic Health Technology, Ministry of Health, Indonesia

Dr Enrique Tayag, Department of Health, Philippines

Dr Liana Torosyan, Former Head, Department of Epidemiology of Infectious Diseases, National Center of Disease Control and Prevention, Ministry of Health, Armenia

Dr Jane Ruth Aceng (Uganda) was unable to attend.
Dr Phonepadih Xangsayarath, Director of the National Center for Laboratory and Epidemiology, Lao People's Democratic Republic
Annex 2

Meeting of the Pandemic Influenza Preparedness Advisory Group
14-18 March 2022
Summary of Declarations of Interests by members

In accordance with WHO policy, in advance of the meeting, all PIP Framework Advisory Group members were asked to provide a duly completed Declaration of Interests form to inform WHO about real, potential or actual conflicts of interests that they might have in relation to the subject matter of the meeting. Over the course of the meeting, the Advisory Group discussed, reviewed, or was provided updates on implementation of the Framework, including: a) virus sharing; b) Standard Material Transfer Agreement 2, and c) Partnership Contribution implementation.

During the meeting, the Advisory Group also interacted with manufacturers and other stakeholders regarding the implementation of the PIP Framework.

Members, in the exercise of their functions on the Advisory Group, serve in their individual capacity acting as international experts serving WHO exclusively. The experts participating in the Advisory Group meeting were, by WHO region:¹

Africa
• Dr Mbayame Ndiaye Niang (Senegal)
• Dr Farida Al Hosani (United Arab Emirates)
• Dr Anne von Gottberg (South Africa)

Americas
• Dr Elizabeth Ferdinand (Barbados)
• Dr Roberto Eduardo Arroba Tijerino (Costa Rica)
• Dr Howard Njoo (Canada)

Eastern Mediterranean
• Dr Sulaiman Al-Busaidi (Oman)
• Dr Mohammad Mehdi Gouya (Iran)

Europe
• Dr Heidi Meyer (Germany)
• Dr Dimitrijevic Dragana (Serbia)
• Dr Liana Torosyan (Armenia)

¹ Dr Jane Ruth Aceng (Uganda), was unable to attend.
South-East Asia

- Dr Kedar Baral (Nepal)
- Dr Soe Lwin Nyein (Myanmar)
- Dr Vivi Setiawaty (Indonesia)

Western Pacific

- Dr Enrique Tayag (Philippines)
- Dr Lokman Hakim Bin Sulaiman (Malaysia)
- Dr Phonepadith Xangsayarath, (Lao People's Democratic Republic).

Given that discussions in the meeting were on the use or allocation of Partnership Contribution resources, and in the interest of transparency, the following interests and/or affiliations are relevant to the subject of work and are hereby disclosed:

<table>
<thead>
<tr>
<th>Name</th>
<th>Interest declared</th>
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<tbody>
<tr>
<td>Dr Elizabeth Ferdinand</td>
<td>Former Civil Servant</td>
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<tr>
<td>Dr Sulaiman Al-Busaidi</td>
<td>Former Civil Servant</td>
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<td>Dr Enrique Tayag</td>
<td>Civil Servant</td>
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<tr>
<td>Dr Mohammad Mehdi Gouya</td>
<td>Civil Servant</td>
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<tr>
<td>Dr Roberto Arroba</td>
<td>Civil Servant</td>
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<tr>
<td>Dr Soe Lwin Nyein (Myanmar)</td>
<td>Civil Servant</td>
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<tr>
<td>Dr Liana Torosyan</td>
<td>Civil Servant</td>
</tr>
<tr>
<td>Dr Anne von Gottberg</td>
<td>The National Institute for Communicable Diseases in South Africa receives research funds every year from the US CDC, Atlanta.</td>
</tr>
</tbody>
</table>

No comments were received as a result of the Public Notice and Comment period. No other interests declared by members of the Advisory Group were deemed relevant to the work of the group. In consultation with the Compliance and Risk Management and Ethics unit, it was determined that there is no conflict in respect of these members.
Meeting of the Pandemic Influenza Preparedness Framework Advisory Group
14-18 March 2022
Agenda

1. Welcome remarks
2. Declarations of Interest
3. Adoption of agenda
4. Challenges of influenza virus sharing; update on the work of the AGWG
5. Broader WHO work on pandemic preparedness and response
6. Public Health Implications of Implementation of the Nagoya Protocol
7. Influenza Virus Sharing
8. SMTA2 update
9. Update on Partnership Contribution and HLIP-II Implementation
10. Proportional division for pandemic preparedness and response
11. Updating the level of partnership contribution
12. Advisory Group consultation with industry and other stakeholders
   • Presentations from stakeholders
   • Updates from Secretariat on PIP Framework implementation
13. Development of recommendations to the Director-General and Meeting Report
14. Next steps
   • Next meeting of the Advisory Group
   • Any other business
15. Close of meeting
Annex 4

Meeting of the Pandemic Influenza Preparedness Framework Advisory Group
14-18 March 2022

List of Participants

GISRS representatives

1. Héctor Chiparelli, Jefe de Unidad de Virología, Depto. de Laboratorios de Salud Pública, Montevideo, Uruguay
2. Othmar Engelhardt, Principal Scientist, Division of Virology, National Institute for Biological Standards and Control, Blanche Lane, United Kingdom
3. Summer Galloway, WHO Collaborating Centre for Surveillance, Epidemiology and Control of Influenza, US Centers for Disease Control and Prevention, United States of America
4. Olav Hungnes, Director, National Influenza Centre, Norwegian Institute of Public Health, Norway

Civil society organizations

2. Edward Hammond, TWN
3. Sangeeta Shashikant, TWN

Manufacturers and industry associations

2. Phyllis Arthur, Biotechnology Innovation Organization (BIO)
2. Paula Barbosa, International Federation of Pharmaceutical Manufacturers & Associations (IFPMA)
2. John Billington, GSK
2. Felipe Altarejo Carvilhe, Instituto Butantan
2. Antonio Cesar Pereira da Silva, Instituto Butantan
2. Ying-Tsun Chen, International Pharmaceutical Students Federation (IPSF)
2. Priscila Comone, Instituto Butantan
2. Douglas Gonçalves de Macedo, Instituto Butantan
2. Samir Desai, Cadila Healthcare Limited
2. Parichat Duangkhae, Government Pharmaceutical Organization (GPO)
2. Erica Dueger, Sanofi Pasteur
2. Milan Ganguly, SII
2. Harshet Jain, Panacea Biotec
2. Melchior Kuo, IFPMA
2. Sam Lee, Sanofi Pasteur
2. Lily Li, Ortho Clinical Diagnostics
2. Teng Li, Sinovac Biotech Ltd

1 Particiipated in relevant technical sessions of the meeting.
2 Participated in the 17 March 2021 consultation with stakeholders
• Kapil Maithal, Cadila Healthcare Ltd.
• Elizaveta Malikova, Petrovax Pharm
• Chenyao Mao, SINOVC
• Débora Botéquio Moretti, Instituto Butantan
• Lyn Morgan, Sanofi Pasteur
• Parag Nagarkar, Serum Institute of India
• Sonia Pagliusi, DCVMN
• Bich Hong Pham, Institute of Vaccines and Medical Biologicals (IVAC), Vietnam
• Cristiano Goncalves Pereira, Instituto Butantan
• Sandra Perreand, Biomerieux
• Anirudha Potey, Serum Institute of India
• Alexander Precioso, Instituto Butantan
• Monika Puri, F. Hoffmann-La Roche Ltd.
• Tharini Sathiamoorthy, Cepheid
• Kaori Shinoda, Daiichi Sankyo Co., Ltd
• Kristina Shultz, AdvaMedDx
• Bradford Spring, BD
• Joel Straus, BIO
• Beverly Taylor, Seqirus Vaccines
• Paul Torkehagen, Medigen Vaccine Biologics
• Ted Tsai, Takeda
• Parikshit Tyagi, Serum Institute of India Pvt. Ltd
• Susan Van Meter, AdvaMedDx
• Sogo Yamamoto, DaiichiSankyo
• Li Yansonghe, Shanghai Institute of Biological Products Co., Ltd. Sinopharm

Databases
• Nancy Akite, GISAID Initiative
• Ben Branda, GISAID Initiative
• Krista Queen, GISAID Initiative
• Philippe Le Mercier, Swiss Institute of Bioinformatics

Other organizations
• Nithin Ramakrishnan, Independent Researcher
• Ilene Mizrachi, NCBI/NLM/NIH
• Jeremy Kamil, Louisiana State Health Shreveport

WHO Staff

WHO regional offices

AFRO

3 Participated in some or all of the meeting.
• Belinda Herring, AF/RGO/WHE/EPP
• Ambrose Otau Talisuna, AF/RGO/WHE/EPP

AMRO
• Angella Smith, AM/PAHO
• Andrea Vicari, AM/PAHO

EMRO
• Abdinasir Abubakar, EM/RGO/WHE/EPP
• Amgad Elkholy, EM/RGO/WHE/EPP
• Wasiq Khan, EM/RGO/WHE/EPP
• Ruba Kawafha, EM/RGO/WHE/EPP
• Eman Omran, EM/RGO/WHE/EPP

EURO
• Michala Hegermann-Lindencrone, EU/RGO/WHE/EPP
• Richard Pebody, EU/RGO/WHE/EPP

SEARO
• Supriya Bezbaruah, SE/RGO/WHE/EPP
• Francis Inbanathan, SE/RGO/WHE/EPP
• Pushpa Wijesinghe, SE/RGO/WHE/EPP

WPRO
• Phuong Nam Nguyen, WPR/RGO/WHE
• Tamano Matsui, WPR/RGO/WHE

WHO headquarters
• Esther Awit, HQ/WPE/EPP/PIP
• Jennifer Barragan, HQ/WPE/EPP/PIP
• Luisa Belloni, HQ/WPE/EPP/PIP
• Isabel Bergeri, HQ/WPE/EPP/GIP
• Sylvie Briand, HQ/WPE/EPP
• Christopher Chadwick, HQ/WPE/EPP/IPR
• Hitesh Chugh, HQ/WPE/EPP/PIP
• Katherine Deland, HQ/SCI/RFH
• Chadi Fayad, HQ/WPE/EPP/IPR
• Julia Fitzner, HQ/WPE/EPP/GIP
• Ioana Ghiga, HQ/WPE/EPP/IEP
• Shoshanna Goldin, HQ/WPE/EPP/IPR
• Sarah Hamid, HQ/WPE/EPP/GIP
• Aspen Hammond, HQ/WPE/EPP/GIP
• Sarah Hess, HQ/WPE/EPP/IEP
• Poonam Huria, HQ/WPE/EPP/PIP
• Anne Huvos, HQ/WPE/EPP/PIP
• Sandra Jackson, HQ/WPE/EPP/GIP
- Sasha Kontic, HQ/WPE/EPP/PIP
- Maja Lievre, HQ/WPE/EPP/GIP
- Alaa Magdy, HQ/MHP/RPQ/REG/RSS
- Bikram Maharjan, HQ/WPE/EPP/GIP
- Holly Moore, HQ/LEG.
- Claudia Nannini, HQ/DGO/DGD/LEG
- Tim Nguyen, HQ/WPE/EPP/IEP
- Raziheh Ostad, HQ/MHP/RPQ/REG/RSS
- Dmitriy Pereyaslov, HQ/WPE/EPP/GIP
- Awandha Raspati Mamahit, HQ/WPE/EPP/GIP
- Magdi Samaan, HQ/WPE/EPP/GIP
- Gina Samaan, HQ/WPE/EPP/PIP
- Siddhivinayak Shriram Hirve, HQ/WPE/EPP/GIP
- Hiiti Sillo, HQ/MHP/RPQ/REG/RSS
- Steve Solomon, HQ/DGO/DGD/LEG/GBI
- Katelijn Vandemaele, HQ/WPE/EPP/GIP
- Wenqing Zhang, HQ/WPE/EPP/GIP