

VIRTUAL ROUNDTABLE SERIES: SHARING SOLUTIONS AND LESSONS FOR EQUITABLE COVID-19 VACCINATION REPORT

HEALTH INTERVENTION AND TECHNOLOGY ASSESSMENT PROGRAM (HITAP),
MINISTRY OF PUBLIC HEALTH



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Acknowledgements

This report summarises the proceedings of the Virtual Roundtable series organised by the Access and Delivery Partnership (ADP), a project led by the United Nations Development Programme (UNDP) and supported by the Government of Japan, and the Health Intervention and Technology Assessment Program (HITAP), Ministry of Public Health, Thailand. It aims to inform policy on COVID-19 through the use of evidence and knowledge sharing. This report has been prepared by (in alphabetical order): Ms. Aparna Ananthakrishnan, Ms. Chayapat Rachatan and Ms. Saudamini Dabak. We thank Ms. Cecilia Oh, Mr. Leslie Ong and Mr. Ian Mungall who were part of the team that conducted the Roundtables as well as Mr. Prudchadee Boonnak for his support during the Roundtables We are grateful to Dr. Yot Teerawattananon and Assoc. Prof. Wanrudee Isaranuwachai for their inputs. We thank the chairs, moderators, and speakers at the two roundtables and all attendees for their active participation.

The findings, interpretations and conclusions expressed in this report do not necessarily reflect the views of the funding or participating agencies.

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Introduction

Background

The COVID-19 pandemic has shaped the economic and social lives of people around the world since 2020 and caused widespread morbidity and mortality. Vaccines are one of the important solutions to this scourge and several global efforts to promote safe and effective COVID-19 vaccinations have been implemented. However, inequitable access to COVID-19 vaccines remains a challenge in many low-and middle-income countries (LMICs). Information on determinants and frameworks to support effective and equitable COVID-19 vaccination at the national level can be instrumental in the scale-up of national vaccination programmes, in readiness for when greater supplies of vaccines will be available.

Objectives

A virtual roundtable series was convened by the Access and Delivery Partnership (ADP), led by the United Nations Development Programme (UNDP), and the Health Intervention and Technology Assessment Program (HITAP), Ministry of Public Health, Thailand. The roundtables fostered exchanges between policy makers and technical experts on the enablers or success factors of effective and equitable COVID-19 vaccination programmes at the national level. Sharing country experiences can provide valuable lessons for overcoming bottlenecks and complications, and in turn promote a better understanding of the common elements of successful deployment and continued uptake of COVID-19 vaccines, as well as inform governments in their prioritisation.

Format

The Roundtable series consisted of two virtual roundtables, focusing on different dimensions of COVID-19 vaccine roll-out. Roundtable 1 highlighted the policy, governance, and strategic approaches for effective roll-out and deployment of these vaccines whereas Roundtable 2 examined the factors that can sustain and support effective vaccination programmes. Invited speakers called attention to their country experiences and offered insights on the issues at hand. Invited participants interacted during the panel discussion to further topical knowledge and share some key lessons learned. The Roundtables were chaired by eminent representatives from Asia and Africa who helped frame the discussion; the Roundtables were moderated by representatives of the organisers. The first Roundtable was structure to have three speakers, each followed by a discussant, after which an open discussion ensued. The second Roundtable was set-up as a panel discussion with two rounds of interventions by speakers, followed by an open discussion. Speakers and participants were invited to engage on ADP's online community platform to share resources and materials and facilitate conversations on topics related to the roundtables.



Source: <https://community.adphealth.org/group/adp-online-platform-community>

Participants

Participation at the Roundtable was by invitation only and was conducted under the Chatham House Rule to create a trusted environment and encourage open dialogue. Speakers and participants were policymakers and technical experts drawn from diverse countries and regions, including agencies responsible for public health, vaccine regulation, immunisation programmes, technology assessment and procurement as well as representatives from multilateral development partners. There were 125 participants in total for the two roundtables. These participants come from a diverse range of countries with varying levels of population and income, as well as COVID-19 vaccine supplies and coverage as shown in Figures 1, 2, and 3 below.

Preparatory materials

The team prepared briefing documents to provide an overview of the key issues and questions surrounding the topics in each Roundtable. Background information on countries and issues presented at the Roundtable by speakers were also pre-prepared by the team. All background materials are provided in Annex 4.

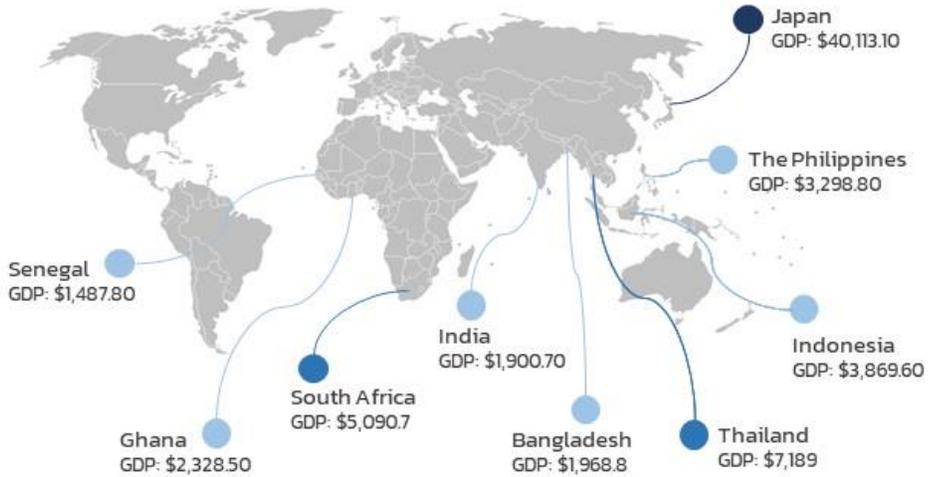
Figure 1: Country profile of countries represented by speakers

COUNTRY PROFILE

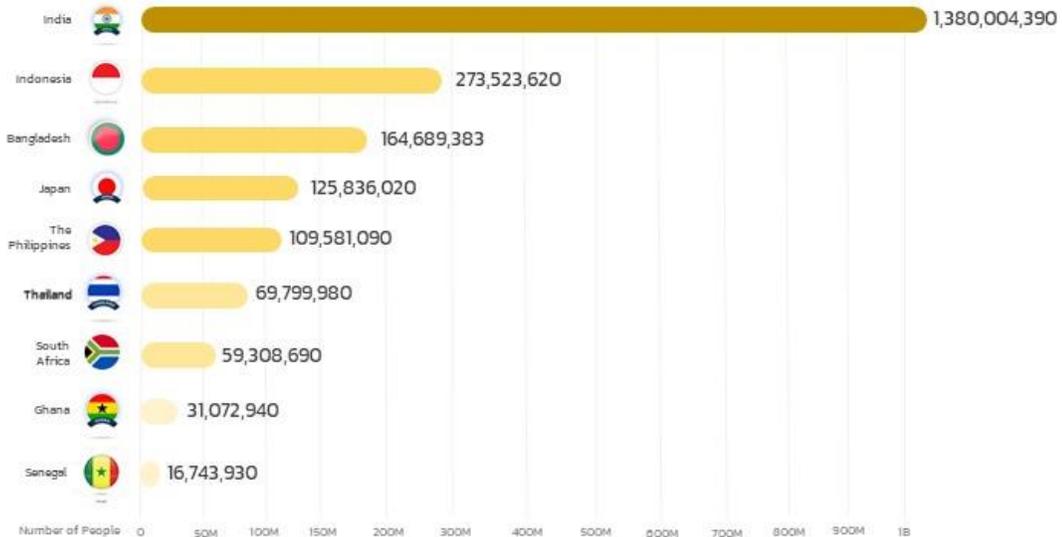
World Bank Income Groups,

Based on Gross National Income Per Capita (US\$)

High-income	Upper middle-income	Lower middle-income	Low-income
>\$12,695	\$4,096 - \$12,695	\$1,046 - \$4,095	<\$1,046



Population by Country

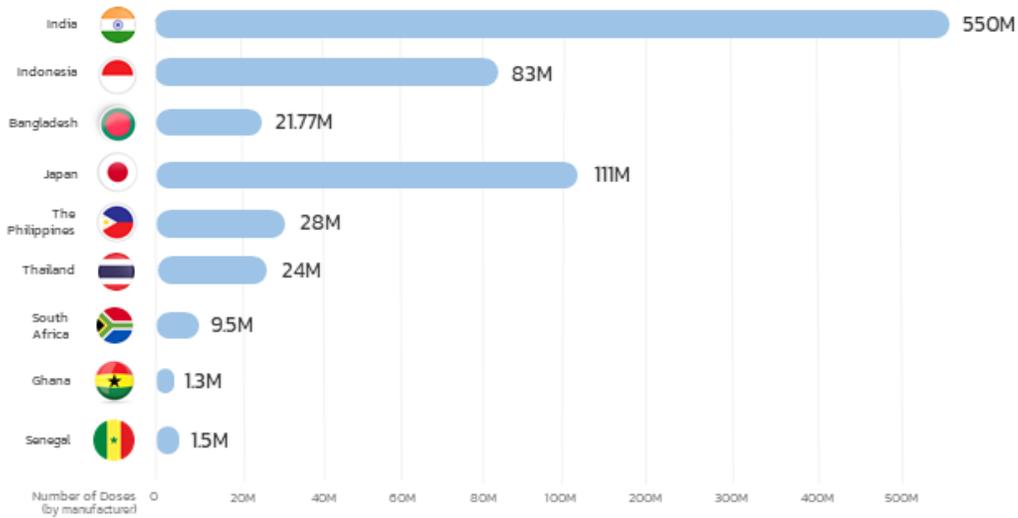


Sources: World Health Organisation, World Development Indicators, The World Bank

Figure 2: COVID-19 Statistics of countries represented by speakers

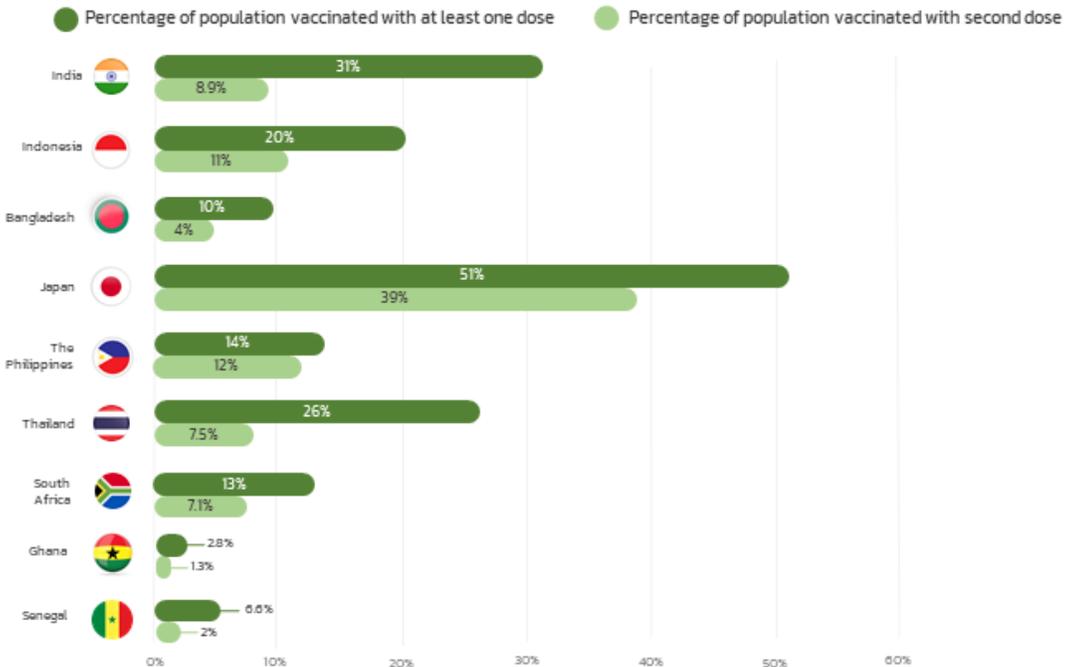
COVID-19 VACCINE STATISTICS

COVID-19 Vaccines Procured by Country



Dated 18 Aug 2021

Share of People Vaccinated Against COVID-19



Dated 18 Aug 2021

Sources: UNICEF, Our World in Data, News articles

Figure 3: COVAX and/or bilateral deals

Additional Information

COVAX AND/OR BILATERAL DEALS

		COVAX	BILATERAL DEALS	DONATIONS
India		✓ DONOR	✓	✓
Indonesia		✓ RECIPIENT	✓	✓
Bangladesh		✓ RECIPIENT	✓	✓
Japan		✓ DONOR	✓	✓
The Philippines		✓ RECIPIENT	✓	✓
Thailand		✗	✓	✓
South Africa		✓ RECIPIENT	✓	✓
Ghana		✓ RECIPIENT	✓	✓
Senegal		✓ RECIPIENT	✓	✓

Sources: UNICEF, Our World in Data, News articles

Summary of discussion

Roundtable 1

The focus of the first Roundtable was on how countries can plan, prioritise, and deliver vaccines in countries, while governments try to balance the dual objectives of saving lives and maintaining livelihoods. COVID-19 vaccination programmes, therefore, are unique in that they not only aim to protect the health of citizens, but also aim to promote resilient and sustainable recovery from the pandemic by accelerating the return to full socio-economic function. Despite varying income levels and other contextual conditions, several countries are united in this goal and encounter some common challenges; one of the most prominent being the sluggish supply of vaccines. While vaccines have been an important means of recovery from the pandemic, discussions emphasised on ensuring that these technologies are not considered “magic bullets.” In addition to vaccine access alone, health system capacity and human resources in support of implementation is also critical. Trust is yet another important ingredient in this entire process, both in vaccines and in government, with timely and reliable information being made available, addressing public sentiments and hesitancy. It is therefore, not only about clearly communicating scientific facts but also in responding to misinformation in a timely manner. Finally, different strategies are needed at different stages of the vaccination programme, reflecting the evolving situation and prioritisation of target groups for vaccination. These efforts are not the responsibility of one agency or ministry but requires collaboration and coordination across government and non-government actors, with a need to ensure a transparent process. Although priorities may change over time, equity should be the cornerstone of any policy decision and should be an explicit priority when the programmes move beyond planning to implementation.

In this context, three topics of the Roundtable are summarised below:

Governance, planning and delivery of vaccines

Effective vaccine roll-out requires integrated planning, policies and coordinated action across a range of sectors, agencies, and functions. With additional issues such as evolving evidence on the efficacy, immunogenicity, and safety of COVID-19 vaccines, coupled with uncertain supply, governments face significant challenges for the introduction and roll-out of COVID-19 vaccines.

The case of Bangladesh, a densely populated country with over 170 million people was discussed to showcase an important issue for LMICs, where contagious diseases such as COVID-19 spread easily given the existing infrastructural and demographic challenges. Seven vaccines have received emergency approval for domestic use and the country has committed to vaccinate 80 million people by February 2022. Demand for the vaccines has steadily increased since mass vaccination began in February 2021, reaching a point now where supply is significantly constrained with only 35 million doses of vaccines remaining. Bangladesh has a strong EPI system which can provide up to ten million vaccines per day, but the key constraint has been supply of vaccines; the government has sought many ways of overcoming this challenge, including local manufacturing. Availability of vaccines, however, is not enough even when vaccines have been donated through the COVAX Facility. Many countries need to strengthen their institutional and workforce capacity to be able to distribute the vaccines and immunise their citizens, effectively and equitably.

Examples from other countries also offer lessons in strengthening systems for national rollout of COVID-19 vaccination. In Indonesia, a range of vaccines have been made available to its large population. With a

target population of 208 million, the country aims to cover 70% of the population with at least one dose by the end of the year. An inter-ministerial body, the Committee on COVID-19 counter-measures and National Economic Recovery, is overseeing the implementation of the vaccination programme, utilising a digital logistics management system to support effective distribution.

Beyond their responsibility of ensuring oversight, transparency and accountability of the COVID-19 vaccination programme, Members of Parliament have a critical role to play as community champions in combating vaccine hesitancy and promoting national ownership of vaccination strategies and programmes. It is therefore important for all parties, regulators, and experts, to engage with Members of Parliament and policymakers for a coherent and comprehensive approach to COVID-19 vaccination.

There is a need for effective leadership, political commitment and coordination at the country level which is important to reach the target of 70% vaccine coverage globally by 2022. With the ramp-up of the vaccination programme, there is a need for national and sub-national planning processes that include contributions from stakeholders who procure, administer and receive the vaccines. These planning mechanisms will inform and oversee the service delivery model.

Ensuring vaccine safety and quality

COVID-19 vaccines have been developed at an unprecedented speed and it is imperative that their safety, efficacy and quality are ensured. The World Health Organization's (WHO) Emergency Use Listing and Prequalification (WHO EUL/PQ) of vaccines currently offers a pathway for countries to introduce and use COVID-19 vaccines within a short timeframe. However, national regulatory authorities (NRAs) are also required to establish the regulatory approval pathway for import and use of the vaccines in each country. During the COVID-19 pandemic, NRAs have been instrumental in ensuring the safety of vaccines while facilitating rapid access to vaccines, on the other.

The case of Ghana is illustrative in terms of this process. Ghana was the first country in Africa to receive COVAX supplies with Covishield (the Oxford/AstraZeneca vaccine brand manufactured in India). Having had the recent experience of the Ebola crisis, the Ghana Food and Drug Authority (FDA) is well prepared in responding to the current pandemic. The Ghana FDA developed guidelines for Emergency Use Authorisation (EUA) to allow for expedited review of new medical products during pandemics, without compromising safety, quality, and efficacy. Ghana was one of the first African countries to authorise the use of the Covishield vaccine by implementing the EUA process.

Apart from conducting a full evaluation of medical products, the Ghana FDA also performs 'regulatory reliance' whereby it may partially or fully rely on evaluations of the same products performed by a stringent regulatory authority, such as the United States FDA or the Medicines and Healthcare products Regulatory Agency (MHRA) of the United Kingdom. After reviewing Covishield, Ghana completed a full review of the Sputnik V vaccine as it had not been reviewed by any of the stringent agencies. The institutional capacity of Ghana FDA was recently assessed by WHO to be at maturity level 3 with the requisite capacity to conduct such reviews¹.

¹List of National Regulatory Authorities (NRAs) operating at maturity level 3 (ML3)¹ and maturity level 4 (ML4)² (as benchmarked against WHO Global Benchmarking Tool (GBT): <https://www.who.int/initiatives/who-listed-authority-reg-authorities/MLA4>

Ghana FDA also had to contend with the challenge of countering misinformation and conspiracy theories on vaccine safety, particularly on social media channels. Ghana FDA worked with the EPI programme on combating vaccine hesitancy through a public awareness-raising campaign which clearly communicated information about the effectiveness and safety of vaccines, as well as by establishing an effective system to monitor and report adverse events following immunisation. A Joint COVID-19 Vaccine Safety Review Committee, reviews safety data of the vaccines and communicate with the public in a simple way on the expected adverse events and to affirm faith in the vaccines. This shows that Ghana has a strong, independent, and well-functioning regulatory authority which plays an important role in communicating with the public on vaccines.

Similar to Ghana, Bhutan developed a Standard Operating Procedure (SOP) for EUA and implemented the expedited access to COVID-19 vaccines.

Promoting equitable access to vaccines

The importance of equitable access to vaccines is fundamental to pandemic response. Infectious disease outbreaks are not restricted within national borders or to specific populations, requiring that these life-saving solutions are accessible to everyone, across and within countries. After all, no one is safe until everyone is safe and the lack of equitable access to vaccines is only likely to prolong the pandemic. At present, stark inequities in vaccine availability are seen globally. Even as most of the populations in LMICs await their first dose of COVID-19 vaccine, many HICs have surplus stock which are reaching expiration and, in some countries, booster doses are now being offered. Those countries that purchased vaccines early now enjoying extensive reserves of unused doses. Some others have been able to capitalise on their domestic vaccine manufacturing capacity while many low- and middle-income countries are dependent on the COVAX Facility and independent bilateral agreements with vaccine manufacturers to receive their share of vaccines. However, the resource constraints have been a severe limitation for many of these countries, and the inability for COVAX to deliver promised doses to several of has been representative of unequal global health infrastructure. In the face of significant procurement challenges, LMICs with the necessary domestic manufacturing capacity are producing vaccines themselves. In Bangladesh, a local company, in collaboration with Sinopharm, will be producing about 40 million doses per month.

Senegal procured their first consignment of vaccines through a bilateral agreement receive doses. However, with vaccine supply constraints as in other LMICs, the country is having to prioritise resources to priority groups within the population, choosing to vaccinate only older populations first. The approach taken by the Ministry is to provide a first vaccine dose to as many people as possible with the available supply, and then provide the second dose only when additional supplies arrive – this will ensure a much broader / equitable coverage of the population with at least partial protection from COVID-19. There was a concern around demand for vaccines and earlier, due to issues with Oxford/AstraZeneca, there was a slow-down in the vaccination campaign. With the third wave ongoing, more people have come to accept vaccines. The government has worked with religious leaders to effectively communicate this approach to the public.

In select cases, some countries which had purchased vaccines and paid in advance were unable to access these as the countries where the manufacturers were located imposed export bans; for instance, India re-directed all its vaccine production towards vaccinating its population (as against to COVAX and other

commitments) in the middle of its second wave in April 2021. Earlier, India had donated vaccines to various countries in the region and beyond.

The Government of India had initially prioritised healthcare workers and front-line workers, followed by people aged over 65 years. By 1 April 2021, the government wanted to provide vaccines to everyone over the age of 45 years, although there were some important issues with respect to private vs. public sector allocation during the roll-out, highlighting the importance of vaccine equity within national borders. However, there is a market failure in ensuring equitable access to vaccines across all hospitals - large hospitals can buy vaccines, while smaller private hospitals are unable to access them. Currently, only 7-10% of the vaccines are being accessed by private hospitals against the 25% allocation. Therefore, the role of the private sector has been limited in expanding access to vaccines in the country.

The case of Wayanad in Kerala is a good example to demonstrate the success of vaccine equity through the local government where vaccine distribution and prioritisation was done at the local level. The district also had innovative approaches, such as using the electoral registration to distribute tokens for vaccination, inform people about vaccination sites as well as conduct special campaigns to administer the vaccines. Wayanad has been able to achieve 100% of coverage of all adults in the district, highlighting the significance of committed leadership in being able to get through the pandemic.

Roundtable 2

Vaccines have been game-changers in combatting COVID-19 but the inequitable access to vaccine supplies has severely impacted the efforts to end the pandemic. The Report of the Independent Panel for Pandemic Preparedness and Response identified several critical challenges for countries in rolling out an effective COVID-19 vaccination programme. These include using childhood immunisation infrastructure to target elderly populations, cold chain capacity in rural and remote locations, disposal of bio-hazardous waste, implementation of vaccines, systems to track vaccination in rural areas, and distrust and misinformation about the vaccines.

Additionally, vaccine hesitancy and skepticism remain a concern. This can be mitigated if vaccination programmes are effectively implemented and involve the public in its delivery. Deliberate, transparent, and timely communication, which offers clear, rational and evidence-based scientific information can effectively address dogma and misinformation related to vaccine hesitancy – be it on adverse events, or on vaccine procurement, manufacturing, and regulatory infrastructure.

Roundtable 2 addresses the topics of monitoring and evaluation, vaccination certificates, and vaccine hesitancy, building on some of the key takeaways from the first discussion. In taking forward these insights, Roundtable 2 focuses on issues that focus on sustaining the gains from established vaccine programmes, and other critical issues of interest in post-pandemic recovery.

The following factors are critical for countries to deal with the pandemic:

1. On governance and planning, centralised decision-making processes need to be agile and flexible. It is important to have the ability to address a problem as it arises and make a mid-course correction to adapt to this dynamic situation.
2. Infrastructure and tools, coordination, and planning of vaccine programmes, and vaccination activities should be undertaken by the national COVID-19 committee that are multisectoral in

nature. It has been shown that some countries have made good use of digital tools for, e.g., registration, track and trace, supply chain management, vaccination certificates, etc.

3. It is crucial that human resource capacity is present at the national level. Moreover, national regulatory authorities also play an important role in implementing vaccination programmes and communicating with the public.
4. Transparency and accountability in communicating how decisions are made is vital for trust-building in society

Behavioral and economic interventions for increased vaccine uptake

The best laid plans for procurement and distribution of vaccines are for naught if they are not accepted by the populations they are intended for. Vaccine hesitancy has been identified as one of the ten major threats to global health even before the COVID-19 pandemic². As vaccines became a game-changing force in the fight against COVID-19, hesitancy in using the available vaccines became a matter of serious concern in countries at various levels of income. These challenges however are understood to be much more concerning in HICs, as compared to LMICs which witness a comparatively lower level of resistance³.

Japan has a low level of vaccine confidence, with a notable reversal in recommendation of a vaccine on account of safety concerns⁴. A survey conducted across a broad population sample found that 41% of respondents were hesitant in receiving COVID-19 vaccination, particularly among younger people and females⁵. The factors associated with hesitancy largely relate to concerns about side effects, among others. A group of researchers working with the Government of Japan developed a chatbot “Corowa-Kun” on a chat application, Line, to reduce misinformation and increase access to correct information on vaccines. This intervention was successful in reducing vaccine hesitancy, to 19% of survey respondents. In addition, the research team collaborated with YouTube to identify and address any misinformation about COVID-19 vaccines on the video platform. The study demonstrates the effectiveness of using social media to counter misinformation that leads to vaccine hesitancy, underscoring collaborations between government, healthcare professionals and platforms.



Figure 4 The Corowa-Kun application was developed and used in Japan to counter misinformation on COVID-19 vaccines.

Source:
<https://www.reuters.com/business/healthcare-pharmaceuticals/cartoon-dog-pitches-covid-vaccines-sceptical-japanese-public-2021-02-12/>

² <https://www.who.int/news-room/spotlight/ten-threats-to-global-health-in-2019>

³ <https://www.nature.com/articles/s41591-021-01459-7>

⁴ <https://www.mdpi.com/2076-393X/9/6/662/html>

⁵ <https://www.medrxiv.org/content/10.1101/2021.05.26.21257854v1.full>

Monitoring and evaluation of vaccination programmes

There is a huge demand for data in real-time by all actors involved in the COVID-19 vaccination programmes. WHO has been collecting vaccination deployment plans from countries which includes plans for Monitoring and Evaluation (M&E). Most countries are now in the process of developing the second version of the plans for deployment of vaccines which will showcase the ambition of countries. M&E systems for vaccination are crucial to ensuring the sustained success of vaccination programmes as they offer critical insights into the successes and challenges of vaccine roll-out. The data allows for analysis into at-risk populations groups and regions within countries, the delivery platforms and mechanisms, as well as other learnings from implementation which then allow mid-course correction to the programmes. Since the challenges to vaccination are often constantly evolving, especially in the case of a novel disease such as COVID-19, there is an even greater need for robust monitoring systems to be instituted. As a result, almost every country has introduced an Intra Action Review (IAR) for COVID-19 vaccination programmes, a tool for early assessment of programmes which countries may find useful for learning from the first roll-out and reshaping the second roll-out of vaccination programmes. WHO has also developed a toolkit for introducing COVID-19 vaccines, which includes guidance on M&E and has advised use of the identical indicators across countries to evaluate the roll-out mechanism where guidance has been developed collaboratively, in a manner that includes selected for best practices. An online digital tool for countries has been set up by WHO as well, to upload data relating to the status of their COVID-19 vaccination programme which more than 167 countries have so far contributed data to this repository.

Countries have been exploring the use of innovative digital tools for real-time monitoring and data analytics to inform decision-making relating to the management of vaccine logistics and beneficiaries. Access to information and data analytics relating to vaccine deployment in real-time is critical for strengthening health system resilience and achieving vaccine equity. Bhutan, India, and Indonesia have scaled up digital systems to support vaccine logistics management and beneficiary tracking, which contributed to the rapid deployment of vaccines across these countries. To harness the potential of digital solutions in accelerating the scale-up of COVID-19 vaccinations, more needs to be done to strengthen the engagement between actors from the health sector and those in the information, communication, and technology sector, with meaningful involvement by civil society and support from development partners such as WHO and UNDP. The use of digital technology must go hand-in-hand with enforcing protocols, policies and regulations that safeguard user data. These tools are needed for advancing public health but are not used for other purposes.

Additionally, multidimensional data analytics is needed for better policy and programmatic decision-making to improve vaccine equity. UNDP, WHO and the University of Oxford have launched a global dashboard that provides hyperlocal analytics on COVID-19 vaccine distributions interlaced with socio-economic information in each LMIC to provide actionable insights for policymakers on improving health outcomes and promoting faster and fairer recovery from the pandemic. There is also an urgent requirement to look at integrated solutions for improving health by incorporating elements that promote the environment.

Tracking and verifying data is an important element of this process. The UN Secretariat is working on a project called "Verify" to ensure that the data related to vaccination is accurate. The multi-lateral system has a role to play in this regard. This is an opportunity to leverage the power of big data analytics and an inter-agency and inter-disciplinary approach between stakeholders is required.

Vaccination certificates

The movement within and between countries has been restricted since the beginning of the pandemic. Some countries have introduced “vaccination certificates” or “immunity passports” as a way of facilitating the re-opening of economies and the return to normality.

The Department of Information and Communications Technology (DICT) in the Philippines has piloted its national digital vaccine certificate (VaxCert PH) and will be scaling it up nationally before the end of September 2021.

Various stakeholders (e.g., Information and Communications Technology or ICT, health, tourism, interior, local governments) were consulted on the development of the certification system. The system complies with the WHO guidance on Digital Documentation of COVID-19 Certificates and considers the recommendations from the International Air Transport Association (IATA) (Wallet Pass) and International Civil Aviation Organisation (ICAO).

The first use case of VaxCertPH is for international travel only, but with potential for expanding its use to facilitate domestic travel and access to local venues, services, and events.

Still, there are certain issues and challenges that need to be considered and resolved prior to the full implementation of VaxCertPH. These include (i) the lack of a centralised immunisation registry (ii) integration of data from surveillance (testing), vaccination, contact tracing to determine path of disease progression (iii) there is yet to be high acceptance model for vaccination certificates (iv) limited availability of vaccine supply and inequitable access may risk exacerbating inequity and discrimination resulting from vaccine certification (v) possible forgery of paper-based vaccination certificates; hence they are looking to find ways to be able to digitally verify the contents of the vaccination certificates (vi) recognition of VaxCertPH by other countries through bilateral or multi-lateral agreements; it is important that data under such agreements are mutually acceptable and securely shareable.

To ensure effective vaccine certification or any form of verifying status of vaccination and its accuracy (‘vaccine credentialling’), it is important to have common technical standards and architecture for verifying and credentialling. Use of digital technology for contact tracing is advanced, with several private companies, including Apple and Google taking an active interest in developing suitable tools. However, this sort of participation in vaccine certificates has been inactive, given the fragmented consensus around the use of these instruments and concerns of interoperability and privacy. For instance, a key challenge to implementing an effective vaccine certification system, especially for international travel, is the lack of a common recognition/acceptance of vaccine types. The WHO’s recommendation on vaccine safety and efficacy, as well as guidance on developing digital certificates, should be integrated into such a global system, and decision-making on vaccine acceptability should not be left to individual countries. At present, the WHO does not support the use of vaccine-based instruments but has been supportive of setting up digital requirements to support these passes, recently releasing interim guidelines on the same.

With so much of the discussion on vaccine-based instruments being linked to digital and technology led infrastructure, there is worry that in countries and regions (such as Africa) where these systems are poor, there is an inherent discrimination in their use. However, the African Union and Africa Centre for Disease Control and Prevention (CDC) are collaborating with partners to support data systems across countries to facilitate systems and processes for vaccine certificates and related instruments. In Asia, HITAP is collaborating with partners in the region as part of the COVID-19 Vaccination Policy Research and Decision Support Initiative in Asia (CORESIA): a regional study on vaccination certificates. Through this process,

several issues have emerged, for example, how mixed-and-matched schedules of vaccines or inclusion of booster shots can be incorporated. Based on surveys conducted on the topic, it appears that people are willing to share their data to others if it allows them to access amenities. The issue of trust remains critical, in public health institutions and where it is stronger, efforts have been more successful. Digital tools have also eroded trust depending on its use. The multi-lateral system has a role to play in this regard, including on combatting misinformation. There is much complexity, and health is a political choice in terms of where investments are directed and to build trust among citizens. It is critical to invest in health and by investing in vaccination programmes, governments can strengthen trust as well. Data systems can facilitate this process, but the story doesn't end there. A study showed that countries with stronger leadership and trust levels perform better than others and this will be a key ingredient in strengthening trust among citizens.

Key take-aways

Speakers and participants shared their thoughts and experiences on solutions and lessons for equitable COVID-19 vaccination. These are some key take-aways reflected from the roundtable series as shown in figure 5 and 6 below.

Roundtable 1

Figure 5: Key take-aways from Roundtable 1

KEY TAKE-AWAYS

ROUNDTABLE 1

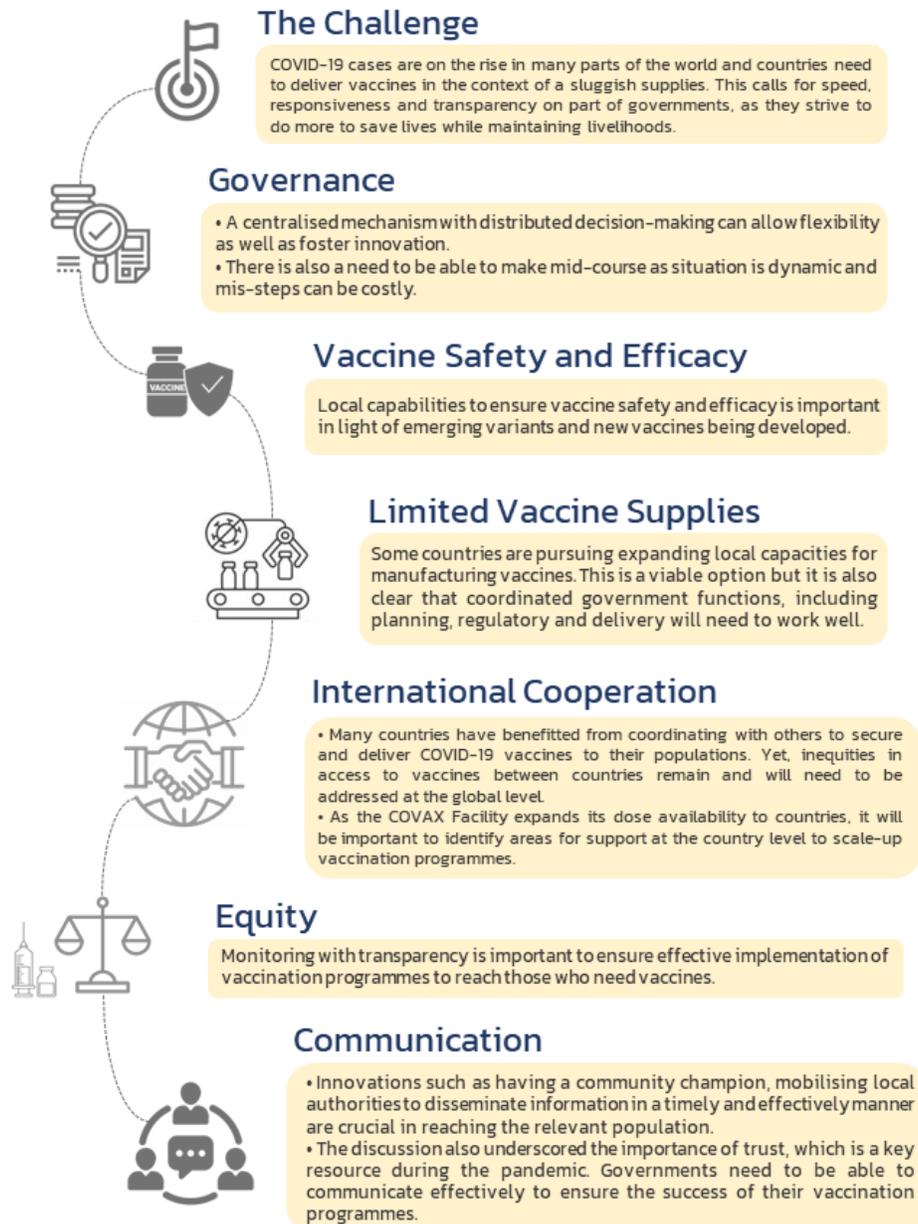


Figure 6: Key take-aways from Roundtable 2

KEY TAKE-AWAYS

ROUNDTABLE 2

Effectiveness and Efficiency



There are several tools that can help increase effectiveness and efficiency of the vaccination programmes. Digital systems and solutions can be utilised to facilitate COVID-19 vaccination programmes. Information on COVID-19 is dynamic, thus the faster one can access information, the better.

Cooperation at all levels



It is necessary to operate at multi-levels to ensure vaccination programmes are effective

- National coordination, political leadership and multi-sectoral engagement, are important for facilitating the introduction of initiatives such as vaccination certificates. This requires engagement of civil society and different partners.
- At the local level, traditional approaches to vaccination such as the development of microplans will be crucial in implementing vaccination programmes to get the "3 Vs" vaccines, vaccinators, and vaccinees who are beneficiaries of these products.
- Global cooperation will be important for the development of the digital tools and data standards to, for example, verify information while protecting individuals' privacy.

Monitoring and Evaluation (M&E)



Monitoring and evaluation (M&E) can aid countries in learning from experiences and adapting to challenges as they emerge.

Agile and Resilient



The health systems and vaccination programmes need to be agile, resilient, and be trusted by the people who used them.

Vaccine Inequity



Vaccine inequity within countries and between countries remains a matter of concern. Addressing the digital divide in interventions proposed will be crucial, particularly in countries with limited resources, to ensure all people can benefit from these advancements for better health and access to amenities and travel.

Additional Information

Lessons Learned

The organising team conducted an After-Action Review (AAR) after each Roundtable to discuss what worked well and what were areas for further improvement. In addition, the team received feedback from other partners. One of the key inputs received was to encourage more interaction and hence, a panel format was decided for the second roundtable. Given the richness of the discussion, it was agreed to share the invitation to the meeting with HITAP staff as well as its networks for the next event. Preparatory materials were found to have been useful as was a discussion with speakers.

Next steps

This report will be made available on the websites of ADP and HITAP. To continue the conversation among participants, the ADP Community platform will be used to share resources on the topics covered in the Roundtable. In addition, UNDP will prepare an opinion piece to share the lessons more widely to other media channels.

Annexures

1. Agenda

VIRTUAL ROUNDTABLE SERIES:

SHARING SOLUTIONS AND LESSONS FOR EQUITABLE COVID-19 VACCINATION

Roundtable 1:

Challenges and lessons in the national roll-out of COVID-19 vaccines

24 August 2021 (16:00-17:30hrs/Bangkok)

AGENDA

Time	Topic
10 mins	Opening remarks by the Moderator: Håkan Björkman, Regional Health and Development Advisor and Team Leader Health and Development Group, Asia and the Pacific, UNDP Introductions
10 mins	Welcome/context setting remarks by the Chair: Dr. Somsak Chunharas, President, National Health Foundation, Thailand
20 mins	What are the pre-requisites for the effective roll-out and deployment of COVID-19 vaccines? Invited speakers will make 5 mins interventions, highlighting country experiences and insights on: <ul style="list-style-type: none">○ Governance, planning and delivery of vaccines Ir. Montty Girianna, Deputy for Coordination of State-Owned Enterprises Business Development, Research and Innovation, Coordinating Ministry of Economic Affairs and Indonesia National COVID-19 Committee○ Ensuring vaccine safety and quality Delese Mimi Darko, Chief Executive Officer, Ghana Food and Drugs Authority○ Promoting equitable access Prof. Gagandeep Kang, The Wellcome Trust Research Laboratory, Christian Medical College, Vellore, India
45 Mins	Roundtable discussion, facilitated by the Moderator
5 mins	Concluding remarks by the Chair Wrap-up and close by the Moderator

VIRTUAL ROUNDTABLE SERIES:

SHARING SOLUTIONS AND LESSONS FOR EQUITABLE COVID-19 VACCINATION

Roundtable 2:

Sustaining effective vaccination programmes

7 September 2021 (16:00-17:30hrs/Bangkok)

AGENDA

Time	Topic
10 mins	<p>Opening remarks by the Moderator: Srinivas Tata, Director, Social Development Division, United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) Introductions</p>
10 mins	<p>Welcome remarks by the Chair: Precious Matsoso, Director, Health Regulatory Science Platform, University of the Witwatersrand</p>
45 mins	<p>What are the factors that will sustain and support effective vaccination programmes? Moderator will pose two rounds of questions to the speakers who will have 2-3 mins each round. Invited speakers will highlight country experiences on:</p> <ul style="list-style-type: none"> ○ Overview of situation/progress and issues related to monitoring and evaluation Dr. Ann Lindstrand, Director, Expanded Programme on Immunisation (EPI), WHO ○ How the CoWIN digital system has been used to manage India's COVID-19 vaccine programme Mr Vikas Sheel, Additional Secretary, Ministry of Health, India on ○ Vaccine certification, how to operationalise, challenge and lessons Dr. Raymond Sarmiento, Director, National Telehealth Center, National Institutes of Health, University of the Philippines Manila, Philippines on ○ Vaccine hesitancy, reasons for hesitancy, approaches to address it Dr Yuji Yamada, Brookdale Department of Geriatrics and Palliative Medicine, The Mount Sinai Hospital, US ○ Ensuring equity in national vaccination programmes and the UNDP dashboard for vaccine equity Dr Mandeep Dhaliwal, Director, HIV, Health and Development Group, UNDP
25 mins	<p>Roundtable discussion, facilitated by the Moderator</p>
5 mins	<p>Concluding remarks by Chair Wrap-up and close by the Moderator</p>

2. Speaker Bios



Dr. Ann Lindstrand

Director, Expanded Programme on Immunisation (EPI), WHO

Dr. Ann Lindstrand heads the WHO Expanded Programme on Immunization (EPI) Team in the Department of Immunization, Vaccines and Biologicals (IVB), at WHO Headquarters in Geneva. Prior to joining WHO, Ann was the Programme Manager for the National Immunization Programme in Sweden, and NITAG Chair at the Public Health Agency of Sweden. Throughout her career, Ann has also gained significant in-country experience in pediatric care and vaccination programmes in countries such as Angola, French Guyana, Mozambique, and India. Ann has been a lecturer in global child health, mainly focusing on maternal and child health, humanitarian aid and vaccinology. Ann is a Paediatrician and specialist in Public Health and Social Medicine with a MPH from Harvard University and a PhD in pneumococcal vaccine epidemiology from the Karolinska Institute.



Delese Mimi Darko

Chief Executive Officer, Ghana Food and Drugs Authority

Mrs. Delese Mimi Darko graduated with a Bachelor of Pharmacy from the KNUST and a postgraduate Masters degree in Business Administration from the University of Northampton. Her 30 year career encompasses the regulation of food and drugs including clinical trials regulation, marketing authorization and post approval safety monitoring of medicines and (allopathic and herbal) cosmetics, household chemicals and medical devices.

She has risen through the ranks of the Food and Drugs Authority (FDA) to become the first female Chief Executive Officer in 2017.

She led the FDA process of designation by the NEPAD/African Medicines Regulation Harmonization (AMRH) as a Regional Centers of Regulatory Excellence in 3 very critical areas, namely, Medicines Safety (pharmacovigilance), Clinical Trials and Drug Registration. She has contributed both to the growth of research and the local manufacturing industries in Ghana.



Prof. Gagandeep Kang

Christian Medical College (CMC), Vellore, India

Professor Gagandeep Kang is a Professor in the Division of Gastrointestinal Sciences at the Christian Medical College (CMC), Vellore. She is also the chair of the Immunization Technical advisory Group for the WHO's Southeast Asian region, a Fellow of the Royal Society and an Independent Director of Hilleman Laboratories (a joint project by MSD and the Wellcome Trust aimed at developing effective and affordable vaccines for developing countries). She received her MD in Clinical Microbiology in 1991 and her PhD in Microbiology in 1998 from CMC in India.



Dr Mandeep Dhaliwal

Director, HIV, Health and Development Group, Bureau of Policy and Programme Support, UNDP

Dr. Mandeep Dhaliwal is the Director of UNDP's HIV, Health and Development Group, Bureau of Policy and Programme Support. Ms. Dhaliwal brings to the organization over 20 years of experience working on HIV, health, human rights and evidence-based policy and programming in low and middle-income countries. Dr. Dhaliwal joined UNDP in 2008 and was the architect of the Global Commission on HIV and the Law. Prior to joining UNDP, she was a senior adviser to the Dutch Royal Tropical Institute's Special Programme on HIV/ AIDS. From 2000 to 2006, Dr. Dhaliwal worked for the International HIV/AIDS Alliance's Policy, Research and Good Practice Team in the United Kingdom where she focused on issues of HIV care and treatment in developing countries. She was instrumental in expanding the International HIV/AIDS Alliance's technical support and policy work on issues of HIV care, treatment and support in Africa, Asia, Eastern Europe and Latin America. While at the Alliance, she led the development of an operations research initiative in Zambia on community engagement for anti-retroviral treatment. From 1993 to 2000, she worked on HIV and human rights issues in India, including as the founding Coordinator of the Lawyers Collective HIV/AIDS Unit, a leading human rights organization, establishing the Unit's legal aid, public interest litigation, legal literacy and policy/advocacy work.



Ir. Montty Girianna

Deputy for Coordination of State-Owned Enterprises Business Development, Research and Innovation, Coordinating Ministry of Economic Affairs and Indonesia National COVID-19 Committee

Dr. Montty Girianna is currently Deputy for Coordination of State-Owned Enterprises Business Development, Research and Innovation, under the Coordinating Ministry for Economic Affairs. He is also a member of the "National Committee for Handling COVID-19 and National Economic Recovery", which is responsible for coordinating Indonesia's entire response to the COVID-19 pandemic, including the rapid roll-out of the vaccines. As part of his role in the national committee, he has overseen the establishment of the national 'One Data System' which digitizes the flow of data on targeted beneficiaries and the vaccine distribution chain, and forms the backbone of an efficient and effective COVID-19 vaccination programme. Dr. Girianna is a Civil Engineer by training, with postgraduate qualifications in city planning and transportation systems.



Dr. Raymond Sarmiento

Director, National Telehealth Center, National Institutes of Health, University of the Philippines Manila, Philippines

Dr. Raymond Francis R. Sarmiento is a physician-scientist and currently the Director of the National Telehealth Center, National Institutes of Health, University of the Philippines Manila. He is also a Clinical Assistant Professor of the UP College of Medicine's Medical Informatics Unit and chair of the Health Informatics for Development Working Group of the International Medical Informatics Association. He is also the immediate past president of the Philippine Medical Informatics Society and the Philippines' representative to the WHO Working Group on Regulatory Considerations on Artificial Intelligence for Healthcare.



Dr Yuji Yamada

Brookdale Department of Geriatrics and Palliative Medicine, The Mount Sinai Hospital, US

Yuji Yamada is currently a clinical fellow in the Advanced Geriatrics/Leadership Program at the Icahn School of Medicine at Mount Sinai. He also co-founded and volunteered as chairman of the Corowakun consultation room, a social media public health platform implemented in collaboration with the Japanese government to address vaccine hesitancy in Japan.

3. List of confirmed participants

First Name	Last Name	Organisation	Country/ Region Name
Abdoulaye	Diaw	Ministere de la santé et de l'action sociale du Sénégal	Senegal
Aboubacar	Oualy	UNDP	Burkina Faso
Ahmad Nasir	Wasiq	MoPH/WHO	Afghanistan
Aissatou	Diack	The World bank	United States
Alex	Nkayamba	Tanzania Medicines and Medical Devices Authority (TMDA)	Tanzania
Alireza	Moghanjoghi	UNDP	Sweden
Aminata	Diop	Direction de la pharmacie et du médicament	Senegal
Aminata	Diarra	Direction of Pharmacy and drug, pharmacovigilance unit	Senegal
Amitrajit	Saha	UNDP	Turkey
Ann	Lindstrand	WHO	Switzerland
Annisa	Putri	USAID	Indonesia
Aparna	Ananthakrishnan	HITAP	India
Badri Bahadur	Khadka	Health Office, Kathmandu, Nepal	Nepal
Bakani	Ncube	UWC	South Africa
Belynda	Amankwa	UNDP	Ghana
Benjamin	Djoudalbaye	Africa CDC	Ethiopia
Benjarin	Santatiwongchai	HITAP	United States
Brenda	Mhone	Ministry of Health	Malawi
Brice	Millogo	UNDP	Burkina Faso
Calum	Handforth	UNDP	Singapore
Cecilia	Oh	UNDP	Thailand
Charles	Chauvel	UNDP	New Zealand
Chatkamol	Pheerapanyawaranun	HITAP	Thailand
Chayapat	Rachatan	HITAP	Thailand
Chiranjeev	Bhattacharjya	UNDP	India
Chris	Painter	HITAP	Thailand
Christian	Hendrik	UNDP	Indonesia
Danarastri	Paramita	UNDP	Indonesia
Delese	Darko	Food and Drugs Authority	Ghana
Denis	Enrico Hasyim	UNDP	Indonesia
Dennis	Mwagomba	MOH	Malawi
Deogratias	Mkembela	UNDP	Tanzania
Dian	Faradiba	HITAP	Thailand
Dida	Gardera	Coordinating Ministry for Economic Affairs	Indonesia
Dimple	Butani	HITAP	India

First Name	Last Name	Organisation	Country/ Region Name
Dr. Martha	Gyansa-Lutterodt	Ministry of Health	Ghana
Dr. Shalini	Verma	UNDP	India
Edward Mberu	Kamau	TDR	Kenya
Eiichi	Shimizu	National Center for Global Health and Medicine	Japan
Eko	Sinamo	UNDP	Indonesia
Elizabeth	Wilskie	PATH	United States
Fatama	Ahmed	UNDP	United Kingdom
Felix	Kaminyoghe	Logistics and supply chain officer, United Nation Development Program	Malawi
Fiqhi	Dengo	UNDP	United Kingdom
Francois	Jaques	Freelance consultant	South Africa
Gagandeep	Kang	Christian Medical College	India
George	Sabblah	Food and Drugs Authority, Ghana	Ghana
Georgina	Joachim	IVD	Tanzania
Günter	Boussery	UNICEF, Regional Office for South Asia	Nepal
Guy	Njambong	WHO	France
Hakan	Bjorkman	UNDP	Thailand
Hamid	Shafeeu	Health Emergency Operations Centre	Maldives
Hana	Tomoi	Corowakun	Japan
Hariadi	Soleh	Badan POM	Indonesia
Hilary	Adams	UNICEF	Nepal
Ian	Mungall	UNDP	Thailand
Janet	Byaruhanga	AUDA-NEPAD	South Africa
Judit	Rius Sanjuan	UNDP	United States
Kanchanok	Sirison	HITAP	Thailand
Kanokporn	Srivarom	HITAP	Thailand
Katayoun	Seif Farahi	CDC	null
Kenji	Fujita	ministry of Foreign Affairs of Japan	Japan
Koulonné	Bancé	Agence nationale de régulation pharmaceutique	Burkina Faso
Kwame	Amponsa-Achiano	Ghana Health Service	Ghana
Leena	Elsamani	Africa CDC	Ethiopia
Leni	Rosylin	Coordinating Ministry for Economic Affairs	Indonesia
Leslie	Ong	UNDP	Thailand
Levriana	Yustriani	KPC PEN	Indonesia

First Name	Last Name	Organisation	Country/ Region Name
Madi	Nikiema	Centre des Opérations de réponse aux urgences sanitaires	Burkina Faso
Mandeep	Dhaliwal	UNDP	United States
Margaret	Gyapong	University of health and Allied Sciences	Ghana
Marie-Eve	Raguenaud	TDR/WHO	France
Mariko	Aoki	UNDP	United States
Mariyam Yashfa	Binthi Abdul Wahid	The President's Office	Maldives
MD Masum	Billah	DEPARTMENT OF ICT	Bangladesh
Mike	Chisema	Ministry of Health	Malawi
Mimi	Mynak	Ministry of Health	Bhutan
Mohamed Refaat	Abdelfattah	World Health Organization	Switzerland
Mohammad Mehdi	Gouya	Iranian CDC, MOH, Iran, I.R.	null
Montty	Girianna	Coordinating Ministry for Economic Affair	Indonesia
Morris	Gargar	WHO	Switzerland
Nadhia	Tawaffany	CMEA	Indonesia
Nadia	Roswita	UNDP	Indonesia
Ndeye Astou	Badiane	PATH	Senegal
Nicaise	Ndembi	Africa CDC	Ethiopia
Nopphadol	Pimsarn	Health Intervention and Technology Assessment: HITAP	Thailand
Nora Nindi	Arista	UNDP Indonesia	Indonesia
Pitchawee	Aksonchuen	HITAP	Thailand
Praewa	Kulatnam	HITAP	Thailand
Prasert	Auewarakul	Mahidol University	Thailand
Precious	Matsoso	University of the Witwatersrand	South Africa
Prof Dr MH	Millat	Bangladesh Parliament	Bangladesh
Prudchadee	Boonnak	UNDP	Thailand
Putri	Warta	UNDP	Indonesia
Raditya	Wahyuni	UNDP	Indonesia
Ramatou	Sawadogo	Organisation mondiale de la santé (OMS)	Burkina Faso
Raymond Francis	Sarmiento	National Telehealth Center	Philippines
Rido	Putra	UNDP	Indonesia
Salisa	Phetpradap	Inis Communication	Thailand
Samah	Elsir	UNICEF	Sudan
Sangay	Wangmo	UNDP	Bhutan
Sangay	Phuntsho	Ministry of Health	Bhutan
Saudamini	Dabak	HITAP	Thailand

First Name	Last Name	Organisation	Country/ Region Name
Seyed Mohsen	Zahraei	MOHME, Iran	null
Shirin Sharmin	Chaudhury	Bangladesh Parliament	Bangladesh
Siobhan	Botwright	HITAP	Thailand
Siti	Asfijah	National Agency of Drug and Food Control (NA-DFC)/BPOM	Indonesia
Somsak	Chunharas	National Health Foundation	Thailand
Sophie	Newland	PATH	United States
Srinivas	Tata	UNESCAP	Thailand
Suruchi	Anand	UN ESCAP	United States
Tahmina	Shirin	Institute of Epidemiology, Disease Control and Research (IEDCR)	Bangladesh
Tajudeen	Raji	African Union	Ethiopia
Thiago	Completo Carvalho	Parliamentarians for Global Action	United States
Tim	France	Inis Communication	Thailand
Togi Junice	Hutadjulu	National Agency of Drug and Food Control (NA-DFC)/ BPOM	Indonesia
Tomoko	Nishioka	National Center for Global health and Medicine, Japan	Japan
Vikas	Sheel	MoHFW, Government of India	India
Wangdi	Gyeltshen	Drug Regulatory Authority	Bhutan
William	Opere	EPI GHS	Ghana
Yanjmaa	Binderiya	Ministry of Health	Mongolia
Yasmin	Fechner	Lingua franca Translation	South Africa
Yot	Teerawattananon	HITAP	Thailand
Youssoupha	Ndiaye	MSAS	United States
Yuji	Yamada	The Mount Sinai Hospital	United States

4. Preparatory materials

Background document

BACKGROUND DOCUMENT

SHARING SOLUTIONS AND LESSONS FOR EQUITABLE COVID-19 VACCINATION

This background document provides an overview of the key issues related to national efforts to implement COVID-19 vaccination in low- and middle-income countries (LMICs). It is intended to guide the discussions of the proposed virtual Roundtable series on “Sharing Solutions and Lessons for Equitable COVID-19 Vaccination”. The aim of the Roundtable series is to highlight the challenges in implementing national COVID-19 vaccination programmes and enable the sharing of solutions and insights between countries to promote better understanding of the prerequisites for successful deployment and continued uptake of COVID-19 vaccines. The background document addresses the issues as well as key questions to be explored in the Roundtable discussions:

- **Roundtable 1: Challenges and lessons in the national roll-out of COVID-19 vaccines:** What are the pre-requisites for the effective roll out and deployment of COVID-19 vaccines?
- **Roundtable 2: Sustaining effective vaccination programmes:** What are factors that will sustain and support effective vaccination programmes?

CHALLENGES AND LESSONS IN THE NATIONAL ROLL-OUT OF COVID-19 VACCINES

a. Governance, planning and delivery of vaccines

Evolving evidence on the efficacy, immunogenicity and safety of COVID-19 vaccines, coupled with uncertain supply, pose major challenges for the introduction and roll-out of COVID-19 vaccines. Effective vaccine roll-out requires integrated planning, policies and coordinated action across a range of sectors, agencies and functions.⁶

A governance and operational framework, overseen by a national coordination mechanism, is needed to drive the planning, coordination and communications required for effective vaccine roll-out. In some countries, a national task force, comprising cross-sector representation of government agencies, including the national immunisation technical advisory group, has been established to provide advice to the policymakers and lead the planning and implementation of the vaccination programme. Transparent and accountable decision-making and communications mechanisms are also essential for assuring the public

⁶ <https://www.who.int/publications/i/item/WHO-2019-nCoV-Vaccine-deployment-2021.1-eng>

that deployment of the COVID-19 vaccine in the country is based on rigorous scientific basis and epidemiological need.

Research approaches – such as implementation research and health technology assessment (HTA) – help policy makers and implementers understand existing and emerging evidence to drive policy action and data-driven strategies. They provide frameworks that enable study on interventions implemented in real-world settings, and to test strategies to improve their outcomes and impact. For example, implementation research can identify the environmental and socio-behavioural factors affecting acceptability, appropriateness and feasibility of vaccination programmes, as well as operational bottlenecks within the distribution chain.⁷ HTA – as a multidisciplinary process – can analyze the value and impact of the COVID-19 vaccine,⁸ based on its variable characteristics (e.g., safety and efficacy profiles, cold chain storage requirements, mode of administration, cost), as well as related ethical, social and economic factors.

In the context of limited supply, as well as the cold storage needs of COVID-19 vaccines, a well-planned and strong distribution chain is critical for the mass roll-out of COVID-19 vaccines, especially to reach populations in remote areas. Deployment plans, guidelines and standard operating procedures are needed to ensure availability of the necessary cold-chain infrastructure, and a trained workforce to effectively manage the distribution process. Robust oversight and data-driven logistics management of the distribution chain will promote good governance and accountability, which requires a stock management system that can track, trace and report on vaccine inventory and utilisation, from the national store to the last mile. Constant monitoring of adherence to cold chain practices is also needed to ensure vaccine safety and integrity across the distribution chain, and quick data analytics are important to inform decision-making, guide forecasting of vaccine needs and inform procurement and distribution planning.

Key questions:

- *Which mechanisms are being used by countries to lead and coordinate national COVID-19 vaccination programmes?*
- *How are the perspectives of key stakeholders, including implementers, researchers, policy makers and communities, incorporated into policymaking?*
- *How is scientific or technical evidence used to inform policy decisions for the governance and planning of COVID-19 vaccination programmes, as well as the broader pandemic response?*
- *Which vaccine logistics management systems are being used for the distribution of COVID-19 vaccines? What innovative approaches, such as the use of digital solutions, have helped?*

b. Ensuring vaccine safety and quality

The procedure for the WHO's EUL and prequalification (WHO EUL/PQ) of vaccines currently offers a pathway for countries to introduce and use COVID-19 vaccines within a short timeframe. However, national regulatory authorities (NRAs) are also required to establish the regulatory pathway for import and use of the vaccines. As such, NRAs in LMICs will need to develop and implement streamlined and risk-

⁷ <https://www.bmj.com/content/bmj/369/bmj.m1888.full.pdf>

⁸ <https://www.cgdev.org/blog/early-health-technology-assessment-covid-19-vaccine>

based regulatory pathways to assess quality, safety and efficacy of vaccines, including expedited assessment of data and emergency approval. Expedited assessment may also be based on recognition and/or reliance on the approval/authorisation of other regulatory authorities where they do not have emergency use authorisation processes and/or lack the capacity for their own assessment or evaluation of the vaccines.

The pandemic has demonstrated the urgent need to strengthen capacities of NRAs to ensure the safety and effectiveness of new medicines and medical products.⁹ The role of NRAs as independent, science-based institutions is critical - not just for the urgent introduction and use of the COVID-19 vaccines, but also with the rapid deployment of clinical trials and the introduction of new and repurposed treatments.

Greater harmonisation of policies, regulations, and guidelines, as well as improved data sharing, mutual recognition of manufacturing practices, drug registration, inspection and evaluation will improve efficiency and transparency of regulatory decision-making. Other important regulatory functions that promote assurance of vaccine safety and efficacy relate to post-market vaccine vigilance,¹⁰ Good Laboratory Practice, Good Manufacturing Practice and Good Distribution Practice, as well as alignment of regulatory frameworks with national laws related to importation of medical products, and processes of customs and other relevant authorities.

Key questions:

- *What are the major regulatory bottlenecks in the access and introduction of COVID-19 vaccines?*
- *What are the technical and capacity gaps, and other challenges, faced by NRAs in implementing expedited approval for COVID-19 vaccines?*
- *Are there drawbacks to expediting the regulatory processes and how might these be addressed?*

c. Promoting equitable access to COVID-19 vaccines

A key consideration in the COVID-19 vaccine roll-out, especially in the context of supply constraints, is defining and identifying the priority group(s) of recipients, and how to reach them as quickly as possible. Guiding principles and policy recommendations¹¹ from the WHO provide a prioritisation framework based on age, environmental risk (e.g., health facilities, public transportation) and underlying health conditions. This framework should be tailored to specific countries' vaccine supply and availability, national contexts, and epidemiologic settings.

There are also other clinical, ethical, and programmatic factors that countries may prioritise in determining target groups so as to maximise the impact of the vaccination programme. A holistic and rights-based approach requires broader consideration of intersectional needs in society and the disproportionate impact that COVID-19 is having on vulnerable population groups.¹² Apart from risk of infection and severity of pre-existing diseases, governments may also consider prioritisation according to

⁹ <https://www.paho.org/en/news/26-4-2021-paho-report-covid-19-highlights-need-strengthening-national-regulatory-authorities>

¹⁰ <https://www.nature.com/articles/s41591-021-01230-y>

¹¹ The WHO SAGE values framework; The WHO SAGE prioritisation roadmap.

¹² <https://gh.bmj.com/content/bmjgh/6/2/e004462.full.pdf>

social, economic, and legal vulnerabilities; and potential financial and social effects of ill health. These populations include refugees and internally displaced populations, stateless persons, undocumented workers, the differently abled, prisoners, sex workers, LGBTI people and people living in poverty.

Equity in vaccine access should be a guiding principle in national vaccination programmes but there is also enormous policy, logistical and political challenges to achieving this goal, including the lack of reliable data on vulnerable populations who are often mobile and undocumented,¹³ and a potential rise in societal tensions over the distribution of a scarce resource.¹⁴

Key questions:

- *Which factors determine how vaccine recipients are prioritised, beyond frontline health workers, the elderly and those with pre-existing conditions?*
- *How have countries communicated their decision-making processes in the selection of the priority groups?*
- *Have vaccine deployment mechanisms been successful in improving equitable distribution? Are there examples when this desired outcome has not been achieved?*
- *What should be the role of global initiatives, such as the COVAX Facility, in addressing equity concerns across countries?*

SUSTAINING EFFECTIVE VACCINATION PROGRAMMES

a. Behavioral and economic interventions for increased vaccine uptake

Addressing the unfinished agenda of vaccine hesitancy, in the current pandemic context with limited supply of COVID-19 vaccines, is crucial. The effect of low demand for vaccines is acutely visible in the aftermath of reports concerning the safety of the AstraZeneca or Johnson and Johnson vaccine, whereby stocks of the vaccines now lie unused in some countries.^{15,16} A UK study found that historically marginalised groups are more hesitant to use COVID-19 vaccines.¹⁷ Studies on hesitancy towards COVID-19 vaccines suggest that messaging can reduce hesitancy among groups.¹⁸ Using financial incentives to urge the population to get vaccinated appears to have a strong appeal, with an experiment in the US suggesting cash rewards to be effective¹⁹ and a real-life example of one state in the US offering US\$1 million to five vaccinated citizens through a lottery system.²⁰ The cost-effectiveness of such interventions, however, remains unclear and offers an area for further research.

¹³ <https://www.refugeesinternational.org/reports/2020/12/29/vaccine-authorization-is-just-the-beginning-of-the-journey-to-protecting-displaced-populations-from-covid-19>

¹⁴ <https://www.sabcnews.com/sabcnews/only-south-african-citizens-to-receive-vaccine/>

¹⁵ <https://www.bloomberg.com/news/articles/2021-05-13/vaccine-hesitancy-rose-in-eu-after-pause-in-astrazeneca-shots>

¹⁶ <https://www.bbc.com/news/world-56763490>

¹⁷ <https://www.sciencedirect.com/science/article/pii/S0889159121001100>

¹⁸ [https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667\(21\)00096-7/fulltext](https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667(21)00096-7/fulltext)

¹⁹ <https://www.nytimes.com/2021/05/04/upshot/vaccine-incentive-experiment.html>

²⁰ <https://www.nytimes.com/2021/05/12/us/ohio-lottery-coronavirus-vaccine.html>

Efforts to address vaccine hesitance can be bolstered through regional or global networks, knowledge exchange forums, as well as evidence generation and curation. The role of scientific communication and transparent decision-making in engendering trust in vaccines and the related processes of regulation and distribution are key to addressing issues of hesitancy.²¹

Key questions:

- *How can governments engender behavioral change in the population to increase uptake of COVID-19 vaccines?*
- *How are misinformation and anti-vaccination being addressed?*
- *What are potential areas for cross-country collaboration on vaccine hesitancy, in the context of the current as well as future pandemics?*

b. Monitoring safety and effectiveness of COVID-19 vaccination programmes

The novelty of COVID-19 means that there is much that remains unknown about the effect of both the disease and the vaccines. As vaccines are deployed, it will be essential to monitor for immediate adverse reactions, as well as long-term effects. WHO, in its guidance for governments in developing and updating national deployment and vaccination plans (NDVP)²² for COVID-19 vaccines, recognises the need for a proactive approach to collecting data on vaccine efficacy and effectiveness.

Safety monitoring of COVID-19 vaccines will require specific attention by countries, given that several COVID-19 vaccines were developed using new technologies not previously approved for use against a novel target pathogen. Existing safety surveillance activities, at the national, regional and global levels, will need to be enhanced to address the many unknowns of COVID-19 vaccination. WHO's COVID-19 Vaccines: Safety Surveillance Manual²³ provides preparedness guidance prior to, during and after COVID-19 vaccine, but such guidance will need to be adapted to specific country contexts and take account of the different capacity levels for monitoring, reporting and analysis, as well as the capacity to respond to safety issues.

Continuous surveillance and monitoring will also be important to provide data for on-going research. Reports of a rare adverse event, Vaccine-induced Thrombotic Thrombocytopenia (VITT) have been observed in those vaccinated with AstraZeneca and the Johnson and Johnson vaccines.²⁴ There are also reports of "breakthrough infections",²⁵ where vaccinated individuals become infected with the virus. The emergence of new COVID-19 variants has also raised the need to increase efficacy and effectiveness of

²¹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7912910/>

²² <https://apps.who.int/iris/bitstream/handle/10665/341564/WHO-2019-nCoV-Vaccine-deployment-2021.1-eng.pdf?sequence=1&isAllowed=y>

²³ <https://apps.who.int/iris/bitstream/handle/10665/338400/9789240018280-eng.pdf?sequence=1&isAllowed=y>

²⁴ <https://covid19-sciencetable.ca/sciencebrief/vaccine-induced-immune-thrombotic-thrombocytopenia-vitt-following-adenovirus-vector-covid-19-vaccination/>

²⁵ <https://www.hindustantimes.com/lifestyle/health/hospitalisation-chances-after-covid-vaccination-are-0-06-apollo-hospital-study-101621089347535.html>

vaccines, including through booster shots and other changes to the vaccines. This evolving situation highlights the need for continued surveillance, along with genomic research and sequencing.²⁶

Key questions:

- *What are the major challenges to implementing safety and effectiveness surveillance for COVID-19 vaccines in LMICs?*
- *How is information on vaccine safety and effectiveness collected in LMICs, and how is such information shared across countries?*
- *What is needed to ensure effective global collaboration on COVID-19 vaccine safety and effectiveness?*
- *What indicators do countries use to measure the effectiveness or success of their vaccination programmes? What data will be needed to measure these indicators?*

c. Vaccination certificates

Movement within and between countries, restricted since the beginning of the pandemic, is poised to resume with the roll-out of the COVID-19 vaccines. “Vaccination certificates” or “immunity passports” have gained currency as means to jumpstart economies and return life to normality.

The US Centers for Disease Control and Prevention (CDC) issued guidance in May 2021 on easing restrictions for fully vaccinated individuals.²⁷ Israel is using a “green pass” for citizens to access public activities.²⁸ More recently, the European Union launched its digital COVID-19 certificate on 1 July 2021, which exempts holders from testing or quarantine when crossing borders in the EU and other participating countries.²⁹ The EU COVID-19 certificate sparked debate, as it only certifies the four COVID-19 vaccines authorised by the European Medicines Agency and excludes the version of the AstraZeneca vaccine made in India. The COVAX Facility has since called for equal recognition of all COVID-19 vaccines that have been deemed safe and effective by WHO when making decisions on easing restrictions on travel and other activities.³⁰

LMICs, particularly those which are highly integrated and many of which rely on tourism as an important source of revenue, are also actively considering similar propositions. The “COVID-19 Vaccination Policy Research and Decision Support Initiative in Asia (CORESIA): a regional study on vaccination certificates” initiative offers a framework to assess the impact of such instruments, from increasing the number of travelers and boosting productivity gains.³¹

There is increasing political momentum for such initiatives, yet there remain a range of considerations, including equity and ethical issues, especially in the context of the limited distribution of COVID-19 vaccines between and within countries. While the WHO does not recommend proof of COVID-19 vaccination for international travel, it has developed interim guidance on “Smart Vaccination Certificates” to provide technical standards to ensure inter-operability of these documents.³² Separately, the

²⁶ <https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/variant-surveillance.html>

²⁷ <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/fully-vaccinated-guidance.html>

²⁸ <https://corona.health.gov.il/en/directives/green-pass-info/>

²⁹ <https://www.consilium.europa.eu/en/policies/coronavirus/eu-digital-covid-certificate/>

³⁰ <https://www.who.int/news/item/01-07-2021-joint-covax-statement-on-the-equal-recognition-of-vaccines>

³¹ <https://www.cgdev.org/blog/framework-assess-impact-covid-19-vaccine-certificates>

³² <https://www.who.int/news-room/articles-detail/call-for-public-comments-interim-guidance-for-developing-a-smart-vaccination-certificate-release-candidate-1>

International Air Travel Association (IATA) is testing a Travel Pass with a few airlines to determine the feasibility of such an exercise.³³

Key questions:

- *What are the key considerations and challenges to the use of vaccination certificates (or similar instruments) to facilitate travel? How can these be overcome?
Is international collaboration required to enable effective and safe use of vaccination certificates?
Which agency or institution should have a role in this effort?*

³³ <https://www.who.int/news-room/articles-detail/call-for-public-comments-interim-guidance-for-developing-a-smart-vaccination-certificate-release-candidate-1>

Roundtable 1: Country background and guiding questions

Table 1: Profiles of countries represented by speakers

Country	Region (WHO)	Population (as of 2020)	GDP per capita (US\$)	Income group
Bangladesh	South-East Asian Region	164,689,383	1,968.8	Lower middle-income
Ghana	Africa	31,072,940	2,328.50	Lower middle-income
Japan	Western Pacific Region	125,836,020	40,113.10	High income
India	Southeast Asia	1,380,004,390	1,900.70	Lower middle-income
Indonesia	Southeast Asia	273,523,620	3,869.60	Lower middle-income
The Philippines	Western Pacific Region	109,581,090	3,298.80	Lower middle-income
Senegal	Africa	16,743,930	1,487.80	Lower middle-income
South Africa	Africa	59,308,690	5090.7	Upper middle-income
Thailand	Southeast Asia	69,799,980	7,189	Upper middle-income

Sources: World Health Organisation, World Development Indicators

Table 2: COVID-19 vaccination statistics of countries represented by speakers

Country	COVID-19 vaccines procured/secured		Vaccine coverage	
	Number of doses (by manufacturer)	Additional information: COVAX and/or bilateral deals	Number/Percentage of population vaccinated with at least one dose	Number/Percentage of population vaccinated with second dose
Bangladesh	21.77 million (18 Aug)	COVAX: Yes (recipient) Bilateral deals: Yes Donations: Yes	15.9 million/10% (18 Aug)	5.87 million/ 4% (18 Aug)
Ghana	1.3 million (18 Aug)	COVAX: Yes (recipient) Bilateral deals: Yes Donations: Yes	865,422/2.8% (19 Jul)	405,971/ 1.3% (19 Jul)
Japan	111 million (18 Aug)	COVAX: Yes (donor) Bilateral deals: Yes Donations: (a donor)	64 million/ 51% (17 Aug)	49.4 million/ 39% (17 Aug)
India	550 million (18 Aug)	COVAX: Yes (donor) Bilateral deals: Yes Donations: Yes (waiting for legal processes)	433.5 million/ 31% (17 Aug)	123.1 million/ 8.9% (17 Aug)
Indonesia	83 million (18 Aug)	COVAX: Yes (recipient) Bilateral deals: Yes Donations: Yes	55 million/20% (17 Aug)	29.2 million/11% (17 Aug)
The Philippines	28 million (18 Aug)	COVAX: Yes (recipient) Bilateral deals: Yes Donations: Yes	15.6 million/ 14% (16 Aug)	12.7 million/ 12% (16 Aug)
Senegal	1.5 million (18 Aug)	COVAX: Yes (recipient) Bilateral deals: Yes Donations: Yes	1.1 million/ 6.6% (16 Aug)	341,386/ 2% (16 Aug)

Country	COVID-19 vaccines procured/secured		Vaccine coverage	
	Number of doses (by manufacturer)	Additional information: COVAX and/or bilateral deals	Number/Percentage of population vaccinated with at least one dose	Number/Percentage of population vaccinated with second dose
South Africa	9.5 million	COVAX: Yes	7.5 million/ 13%	4.2 million/ 7.1%
	(18 Aug)	Bilateral deals: Yes Donations: Yes	(16 Aug)	(16 Aug)
Thailand	24 million	COVAX: No	18.4 million/ 26%	5.2 million/ 7.5%
	(18 Aug)	Bilateral deals: Yes Donations: Yes	(16 Aug)	(16 Aug)

Sources: UNICEF, Our World in Data, News articles

Talking points for Chair and Speakers
Roundtable 1: Challenges and lessons in the national roll-out of COVID-19 vaccines

Dr. Somsak Chunharas, President, National Health Foundation, Thailand

Suggested talking points for Chair's opening remarks (based on Dr Somsak's previous comments)

- Perhaps a good way to set the tone and context for this roundtable is to ask the question: How to do as good a job as possible in the circumstances of "sluggish supply" of vaccines?"
- Many, if not all, developing countries are facing this challenge. As such, it can be useful to share our experiences and case studies on the various measures governments in different countries have taken to address the problem.
- We need strategies that acknowledge that the current vaccine supply is lower than demand. It is a different matter where there is sufficient supply. In that scenario – we can expect to have herd immunity and effective coverage.
- In the current situation of limited vaccine supply - I believe a good strategy should address the following elements:

1. Ensuring vaccination programmes are effective and equitable

What do we mean by equity? We need to think about establishing priority. We must look at the different groups in the population: who are the most vulnerable or at risk, for example the elderly and those vulnerable to disease, those who are economically active or those who have so far been in the periphery (such as migrant workers). Decisions about which group to vaccinate when must be made based on the country's priorities and objectives.

2. The planning process of governments should be guided by three main goals:

- how to contain cases and spread of disease;
- how to limit hospitalisation; and
- how to ensure socio-economic recovery.

Which goals take priority and how they are met depends on the country context and decision-making process. It will be interesting and useful to hear from others how these goals have been considered, and how the decisions have been arrived at.

3. Finally, vaccine deployment will depend on a number of key functions that need to be undertaken by governments. These include procurement of vaccines, ensuring their safety and quality, enabling effective distribution and delivery, monitoring and feedback, and then a system of review and amendment the plan, as necessary. All of these have to work together to ensure that the vaccination programs are effective, equitable and sustainable.

Ir. Montty Girianna, Deputy for Coordination of State-Owned Enterprises Business Development, Research and Innovation, Coordinating Ministry of Economic Affairs and Indonesia National COVID-19 Committee

Governance, planning, and delivery of vaccines

Suggested issues/questions to address

- What measures did Indonesia put in place for effective governance, planning and delivery of COVID-19 vaccines?
- What is the “One Data System” for COVID-19 vaccination? Describe the different components of the system (ie. 1. identification and registration, 2. logistics management of vaccine stock, 3. tracking and certification) and the key factors that ensure their strong integration.
- How has the One Data System improved the data collection and data flow for the COVID-19 vaccination programme? Describe the importance of ensuring the availability of metadata relating to the COVID-19 vaccination programme.
- Highlight the importance of the Joint Ministerial Decree issued by the Minister of Health and the Minister of Information and Communication, which provides a framework for data governance, including the prohibition of sharing of personal data between entities and the use of data collected for any purpose other than the distribution of COVID-19 vaccine.

Delese Mimi Darko, Chief Executive Officer, Ghana Food and Drugs Authority

Ensuring COVID-19 vaccine safety and quality

Suggested issues/questions to address

- COVID-19 pandemic demonstrated the importance of the independent role of NRAs in reviewing new products, ensuring its safety and efficacy, facilitating rapid introduction of new health technologies. What is the decision-making process for the expedited approval of the COVID-19 vaccines in Ghana?
 - What are the challenges, limitations, or drawbacks of this process?
 - Given the limited availability of scientific and clinical data, how has Ghana FDA ensured that approval decisions are evidence based?
 - To what extent has Ghana FDA relied on or recognised the authorisation of other regulatory authorities?
- What system does Ghana FDA have in place to monitor and report AEFI for COVID-19 vaccines? What are the challenges and/or lessons learned?
- Given the growing number of second generation COVID-19 vaccines coming down the R&D pipeline, what efforts would Ghana FDA like to see from the global community in improving regulatory coordination, transparency and efficiency?

Global mechanisms for strengthening regulatory harmonisation for COVID-19 vaccines [WHO intervention]

- WHO strengthening mechanisms for regulators to expedite decision making, by:
 - aligning regulatory processes
 - promoting transparency and data sharing
 - facilitating mutual recognition and cooperation
 - standardising protocols for efforts to monitor the safety and effectiveness of vaccines as they are administered around the world.

Prof. Gagandeep Kang, The Wellcome Trust Research Laboratory, Christian Medical College, Vellore, India

Promoting equitable access

Suggested issues/questions to address

- What are the key issues and lessons from the Indian experience in **allowing vaccine sales in the open market?**
- How has access to vaccines been assured, when there has been limited supply? What about concerns about exacerbation of existing inequalities? How to ensure access for the poor and marginalised?
- Are there lessons from the open market sale of vaccines that might be helpful for other countries? Select one case study?
 - Lessons from Wayanad reaching 100% 1st dose vaccine coverage and mobilising community and local facilities to reach hard to reach/ vulnerable population groups
 - Tamil Nadu's exploration of using corporate social responsibility funding from the private sector to offer free universal vaccines
 - Chhattisgarh's use of poverty-based identification and existing social welfare schemes (such as the Antyodaya Anna Yojana) to identify priority populations and introduce vaccines in a phased manner.
- **National vs. state procurement of COVID-19 vaccines** – did the decentralisation of vaccine procurement ensure equitable access?
- What are the key issues? Did this result in competition between states in India, given limited vaccine supplies?

Potential topics for interventions by participants:

- Challenges in expanding access domestically given limited supply of vaccines [Country experience – Thailand, Senegal or other participating countries]
- Booster shots and the potential impact on availability of supply to LMICs [WHO]
- Role of digital technology in addressing equity concerns [UNDP]

Roundtable 2: Issue background and guiding questions

Table 3: Issue background of countries represented by speakers

Country	Highlights	Major challenges
Ghana	<p>(1) The World Bank approved Ghana’s COVID-19 Emergency Preparedness and Response Project Second Additional Financing worth US\$200 million for strengthen Ghana's health system for future pandemic</p> <p>(2) Bought 17 million more doses of Johnson & Johnson vaccines through African Medical Supplies Platform in the third quarter of this year</p> <p>(3) Strengthened the restrictions e.g., mandatory mask wearing, restrictions on weddings and funeral</p> <p>(4) Started a new round of vaccination with 177,700 single-dose Johnson & Johnson vaccines on 16 August 2021 (17 Aug)</p>	<p>(1) Third wave of Delta variant started in June 2021</p> <p>(2) Vaccine supply is limited (not enough vaccines and slow pace of vaccine procurement)</p> <p>(3) Refusal to lockdown due to the impact on the economy</p>
Japan	<p>(1) Signed deal with Pfizer to receive 100 million vaccine doses by June</p> <p>(2) Hosted Olympics; spectators were banned. The International Olympic Committee (IOC) implemented bubble system i.e., Olympic visitors must have two negative test results and download contact tracing apps</p> <p>(3) Preparing strict plans for Paralympics that will take place on 24 August (16 Aug)</p>	<p>(1) Japan is in the fourth state of emergency and Olympic Games were expected to lead to a surge of COVID-19 infections (nearly new 3000 cases were recorded after the start of Olympics)</p> <p>(2) Late and slow vaccination roll-out (25.5 percent of the population are fully vaccinated) (27 July)</p> <p>(3) Lack of transparent and scientific discussion on hosting the Olympics in a safe and secure manner</p> <p>(4) Difficulties in controlling a large number of Olympic visitors to follow the guidelines</p> <p>(5) Extends COVID-19 state of emergency to September 12 as cases surging that might be related to the Olympic Games (16 Aug)</p>

Country	Highlights	Major challenges
India	<ul style="list-style-type: none"> (1) Regional lockdowns implemented (2) Two-third of Indians have antibodies against COVID-19, as per sero-survey (3) Mass vaccination on-going (4) Incentives provided for people to get vaccinated such as subsidising property taxes, offering cheaper air fares, discounted restaurant meals, cheaper groceries, and better bank interest rates (18 Aug) 	<ul style="list-style-type: none"> (1) Delta variant was first detected in October 2020 and led to the country's second wave (2) Religious festival (Kumbh Mela) and election rallies have been associated with outbreaks (3) Shortage of beds, medical oxygen, and drugs in hospitals during the second wave in April-May 2021 (7 May) (4) Large number of healthcare and frontline workers have not been vaccinated (23 July) (5) A third of the people (400 million) are still vulnerable from COVID-19 (people who do not have antibodies against the virus, as per sero-survey) (23 July) (6) Low vaccination coverage (18 Aug) (7) Vaccine hesitancy appears to be widespread (18 Aug)
Indonesia	<ul style="list-style-type: none"> (1) Started vaccination programme early, January 2021 (2) Has secured a diverse portfolio of vaccines (3) Government built new field hospitals and isolation facilities (14 Aug) 	<ul style="list-style-type: none"> (1) Travel during the end of the Ramadan month (2) Lack of cohesive health policy (3) Ineffective vaccination programmes, testing and tracing (4) No lockdown at national level (only in Java and Bali) (5) Vaccine hesitancy remains a major issue (6) Home isolation leads to a wide spread of COVID-19 as many people live in crowded conditions (14 Aug)

Country	Highlights	Major challenges
The Philippines	<p>(1) Enforced community quarantine measures in October 2020 until the beginning of this year which can help containing transmission at the early stage</p> <p>(2) People willing to receive COVID-19 vaccines surge up in June from 12% in February to 43%</p> <p>(3) Local governments and private sectors cooperate to boost vaccination</p>	<p>(1) Vaccine hesitancy among the population at the beginning of the year due to mistrust on government-issued vaccines</p> <p>(2) Government's lack of preparedness</p> <p>(3) testing and tracing infrastructure remains weak</p> <p>(4) Delay in vaccination programme</p> <p>(5) Slow to impose travel bans</p> <p>(6) Health workers are under strain (14 Aug)</p> <p>(7) Detected the first case of Covid-19's Lambda variant (15 Aug)</p>
Senegal	<p>(1) Community and local health authorities boost the public health response from bottom up (28 April) 'chain of solidarity' - Moussa Seydi, chief of infectious disease service at Dakar's University of Fann Hospital Center</p> <p>(2) Impose isolation policy to delay transmission i.e. sought to provide beds for everyone with COVID-19, regardless of mild or asymptomatic cases</p> <p>(3) Prepared early on for the infection</p>	<p>(1) Experiencing third wave in July 2021</p> <p>(2) Hospitals are running out of beds</p> <p>(3) Health care workers and medical staffs are reported be experiencing burnout</p> <p>(4) Delay in receiving COVID test results</p> <p>(5) Delaying in vaccination programme</p> <p>(6) Increased mobility of people from religious festival (Eid al-Adha)</p> <p>(7) Relying on individuals' responsibility instead and avoiding enforcing restrictions</p>
South Africa	<p>(1) Infections declined from 35% in mid-July to an average of 19-20% over the last seven days (national positivity rate = how widespread infections are) (13 Aug)</p> <p>(2) Plans to offer COVID-19 vaccines to people between age 18-35 in August (16 Aug)</p>	<p>(1) Beta variant was first identified in South Africa</p> <p>(2) Eased the COVID-19 lockdown measures to level 3 from 5 in July</p> <p>(3) Vaccine hesitancy</p> <p>(4) Vaccine demand is low, even though there is supply, reportedly due to misinformation, doubt of scientific evidence, beliefs among other factors</p> <p>(5) Vaccine inequity in the country, particularly in rural areas, where vaccine sites are inaccessible, and vaccines are low in stock</p>

Country	Highlights	Major challenges
Thailand	<ul style="list-style-type: none"> (1) Could contain the outbreak during the first wave (2) Implemented Phuket Sandbox, quarantine-free international travel on 1 July 2021 (3) Front-line workers are starting to receive Pfizer vaccines donated by the U.S. (4) Extend lockdown measures until the end of August 2021, including Phuket (17 Aug) 	<ul style="list-style-type: none"> (1) Introduced vaccine policy on mixing doses between Sinovac and AstraZeneca (2) Surge of new infections starting in April 2021 (3) Sluggish vaccination scheme and infrastructure issues (e.g., registration via mobile application is required for vaccination) (4) Ineffective testing and tracing infrastructure (5) Mistrust of the population towards the government's transparency on vaccine allocation programme

Source: Compiled from news articles

Roundtable 2: Guiding questions

Proposed questions for Panel of Roundtable 2

Dr Ann Lindstrand, Director, Expanded Programme on Immunisation (EPI), WHO

Round I. From the vaccine deployment plans received from Member States, how much importance is placed on monitoring and evaluation of vaccination plans? In your view, how important is it?

Round (II) Which areas need close attention from Member States if they are to reach the target of vaccinating 70 per cent of the population by mid-2022?

Mr Vikas Sheel, Additional Secretary, Ministry of Health, India

Round I. COWIN is a scalable, inclusive, and open platform that serves the entire public health system. What are the elements of the COWIN system and how does help track the vaccination programme in India? What have been lessons and challenges that can be shared?

Round II. Can COWIN be used to create vaccination certificates for travel and tourism purposes, both domestic and international?

Dr Raymond Sarmiento, Director, National Telehealth Center, National Institutes of Health, University of the Philippines Manila, Philippines

Round I. What has been the experience of the Philippines in developing vaccination certificates? What were the sensitivities and challenges that you had to face in this regard?

Round II. What potential do you see for using this tool to facilitate economic re-opening and travel and tourism? What are the pre-requisites?

Dr Yuji Yamada, Brookdale Department of Geriatrics and Palliative Medicine, The Mount Sinai Hospital, US

Round I. Based upon the study you conducted, what are the extent and key reasons for vaccine hesitancy in Japan? Can you share your findings with us?

Round II. What are the ways in which vaccine hesitancy can be addressed? Who do you think are the major stakeholders who should be involved?

Dr Mandeep Dhaliwal, Director, HIV, Health and Development Group, UNDP

Round I. Given UNDP's work in supporting LMICs, what issues should countries focus on in terms of ensuring that their vaccination programmes are implemented in a smooth and equitable manner? How can we ensure that we leave no one behind?

Round II. How can countries and the UN system ensure that information and data related to vaccination and the pandemic in general is accurate, timely and accessible?