



**WHO**  
South-East Asia  
Dialogue









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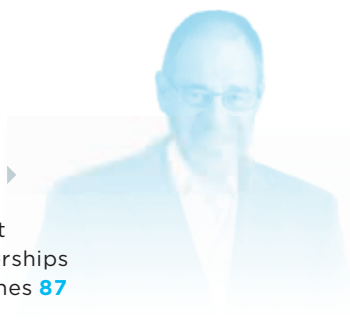


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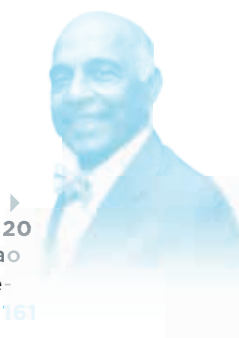


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*The views expressed in this compendium 'WHO South-East Asia Dialogue' are solely those of the speakers and do not represent the official position or reflect any official statement of the World Health Organization. The WHO Regional Office for South-East Asia Region has not conducted content and data verification of the views expressed and, therefore, is not liable for the accuracy of the information presented. Additionally, the data may be dated in certain instances.*



MESSAGE FROM

## THE REGIONAL DIRECTOR

Technical knowledge and expertise are at the core of WHO's identity and are fundamental to our work. While scientific papers in medical journals, and conferences and roundtables, provide an opportunity to learn about new developments and policy options, they are no substitute for smaller meetings with experts in an informal and interactive atmosphere. Such meetings facilitate the sharing of perspectives and insights that may not be a part of formal research papers or official reports. They also help in gaining first-hand knowledge from experts who may be engaged in clinical work, research or implementation related to a still-unfolding health emergency or outbreak.

In 2020 I proposed that the WHO Regional Office for South-East (SE) Asia start a guest lecture series called the WHO Dialogue. In the Dialogue, we invite world leaders and change-makers in health to the Regional Office to deliver a focused talk and share an interactive session with WHO staff. The idea was to develop a platform to learn from and engage with experts from within WHO as well as external experts drawn from the SE Asia Region and beyond. The WHO Dialogue was thus positioned as a platform for knowledge-sharing, networking and collaboration with top experts and organizations across the globe.

When I commissioned the platform, I had three outcomes in mind. First, integrating continuous learning with regular work in the Regional Office, making it a place of discussion and intellectual ferment. Second, expanding staff knowledge on different areas of public health policy and problem-solving. And third, bringing all technical staff in the Regional Office and country offices together.

I am pleased that the WHO Dialogue has achieved all three outcomes, and will, I am sure, continue to encourage a Region-wide culture of knowledge-sharing and learning, and make a qualitative difference to our work.



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**DR POONAM KHETRAPAL SINGH**

Regional Director  
WHO South-East Asia

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In today's interconnected and hyperconnected world, those in a fast-changing field such as health must keep running on the knowledge treadmill. Health science and technology are rapidly evolving. The COVID-19 pandemic has demonstrated that the pace of knowledge generation and dissemination is closely connected with the very survival and future of humanity. Therefore, all available means should be deployed for the rapid spread of knowledge, experience, best practices and risks in all health-related disciplines. One of the best ways for a technical agency like ours to remain updated is to interact with experts engaged at the forefront of emerging research, new technologies and practices in the evolving landscape of global health.

In line with the concept and objectives of the WHO Dialogue as laid out by the Regional Director, the format of the series was kept nimble and lean. It has been designed to be less formal and more interactive. The talks delivered by experts are kept focused and concise. The speakers are requested to deliver a single message in a 20-minute talk with no more than ten slides. The presentation is followed by questions and answers from those present in the room as well as those joining via video conferencing. The WHO Dialogues are video-recorded and subsequently shared on the WHO website and appropriate social media platforms. We aim to hold one Dialogue during the first week of every month when there is a travel ban, which ensures that all staff can attend and benefit.

A good number of experts fly to New Delhi for various conferences and meetings and this allows them to be invited to the Regional Office for WHO Dialogue. In addition, New Delhi is home to several leading health institutions with many global experts in health. We have been able to draw gainfully from this pool of expertise as well. In addition to those in the Regional Office, technical staff in all WHO country offices are encouraged to join via videoconferencing. A large number of them from all countries in the Region have been able to participate in the monthly dialogues and interact with the speakers.

The Dialogue series has covered an array of subjects and diverse expertise. When the series was launched in early 2020, COVID-19 was yet to be declared as a pandemic. The

first few lectures in the series from March 2020 onward focused on different aspects of the pandemic, and the lectures had to be organized in a hybrid mode. The great number of lectures in the series covered issues relating to the pandemic – the best practices related to the vaccine roll-out in Nepal, the experience of Sri Lanka with the immunization tracker and vaccine certificate, an Indian hospital chain's experience of managing COVID-19, India's COVID-19 vaccine story and the world's preparedness for the next pandemic based on the learnings from the COVID-19 experience.

In addition, important but sometimes neglected public health challenges that received attention in the lecture series included air pollution and health, women's rights in the context of 25 years of the Beijing Conference, the challenge of dengue, epilepsy control in resource-constrained settings, vitamin D deficiency, product development partnerships for TB vaccines, oral health in early childhood and integrated people-centred eye care. Lectures by international experts covered cross-cutting topics such as operational research in global health, generating quality evidence for health systems, changing understanding of health security in the post-pandemic era, new challenges for global health, the impact of science on health care and public health.

Though the Dialogue lectures are hosted in the Regional Office in New Delhi (some speakers have participated via videoconferencing), the participants are drawn not only from the Regional Office but all the country offices of WHO in the hybrid mode. Remote participation became a necessity during the pandemic but it has become a norm and has facilitated technical staff from all over to benefit from the lectures. The Dialogue series has opened a new window of learning and knowledge-sharing in the ever-changing world of public health and has helped the WHO South-East (SE) Asia Region fraternity to remain updated.

Going forward, the initiative will hopefully result in the identification of new areas of research, collaboration, partnerships and learning from best practices with the objective of health promotion as well as preparing for current and future health challenges in the Region.



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# DIALOGUE 1



WHO DIALOGUE 1

# NEW CHALLENGES FOR HEALTH: THE GLOBAL PERSPECTIVE

1 FEBRUARY 2023

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## ABOUT THE SPEAKER

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Professor **Peter Piot** is the former Director of the London School of Hygiene and Tropical Medicine and a Professor of Global Health. In 1976, he co-discovered the Ebola virus in Zaire while working at the Institute of Tropical Medicine in Antwerp, Belgium, and led research on HIV/AIDS, sexually transmitted diseases and women's health, mostly in sub-Saharan Africa. Professor Piot was the founding Executive Director of the Joint United Nations Programme on HIV/AIDS (UNAIDS) and Under-Secretary-General of the United Nations from 1995 until 2008. Under his leadership, UNAIDS became the chief advocate for worldwide action against AIDS, also spearheading UN reform by bringing together 10 UN system organizations. He is the first Chair of Her Majesty's Government's Strategic Coherence of Overseas Development Association (ODA)-funded Research (SCOR) Board.

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## ABOUT THE DIALOGUE

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The talk was delivered on 1 February 2023, and the session was moderated by Dr JVR Prasada Rao. It was attended by more than 50 participants from the Regional Office and country offices.













## NEW CHALLENGES FOR HEALTH: THE GLOBAL PERSPECTIVE

The world has seen enormous progress in terms of human development and economic growth in recent decades. This has brought new opportunities as well as challenges for global health. The new challenges are in the form of chronic diseases, chronic conditions, climate change as well as new and emerging viruses. Therefore, it is all the more necessary to bring health to the top of the world agenda.

**UN BODIES, INCLUDING WHO, MUST ENGAGE MORE WITH ENTITIES OTHER THAN GOVERNMENTS BECAUSE THE UN CHARTER EMPHASIZES THE ROLE OF PEOPLE AND NOT MERELY**

**GOVERNMENTS. WE NEED TO BUILD COALITIONS WITH WHOEVER IS A PART OF THE SOLUTION. WHO CAN PLAY THE ROLE OF A NATIONAL CONVENOR TO BRING SEVERAL ACTORS TOGETHER TO INFLUENCE POLICY DIALOGUE.**

It is critical for health professionals to engage with non-health sectors such as business, economy and finance because their engagement is vital for decisions at the political level. We must do everything to demonstrate that health is not a cost or an expense for governments, but is an investment in economic and societal development and reducing inequities. Those in the health

sector should move out of their comfort zone and go where health is not on the agenda at platforms like the World Economic Forum.

While “decolonization of global health” may be a new phrase to denote a paradigm shift in the interface between the global North and South in delivering health goods and services to the poor, the process began two decades ago. The shift started because of the ascent of Asia, particularly India, China and other countries that house centres of excellence for manufacturing as well as academic research. It is no longer a one-way street, and the two sides can learn from each other. But people in the West are yet to internalize this change. The health systems in many high-income countries are struggling and have many problems, and I think some of the solutions will come from the global South.

**IF WE CAN WEAVE HEALTH IMPACT PERSPECTIVES IN THE CLIMATE CHANGE DISCOURSE, IT WOULD MAKE CLIMATE CHANGE AN URGENT ISSUE. HEALTH PROFESSIONALS SHOULD PROVIDE MORE EVIDENCE OF THE IMPACT AND BUILD A CASE.**

The pandemic has made the shift amply clear. For instance, the African Union and Africa Centers for Disease Control, for the first time, took control of the situation without waiting for help from global institutions. They negotiated for vaccine access and organized themselves in response to the epidemic. The African Region has good vaccine manufacturers and there are opportunities for businesses from the South-East Asia Region to join hands with them to ensure equitable access to health goods. There is a real shift in the voice of the global South through platforms like G20, which are more representative of the current power equations than the UN Security Council. When Indonesia was the chair of G-20 last year, it brought health to the forefront. If we convert finance ministers of G-20 into health advocates, it would go a long way in promoting global health.

The pandemic also posed challenges for WHO and other United Nations (UN) bodies, with people questioning their method of governance at the global and regional levels.

Undoubtedly the world needs WHO and other such agencies, and they performed reasonably well during the crisis. At the same time, such intergovernmental organizations depend on their governance and their effectiveness of their governing structures and find it difficult when there are Member States with mutually exclusive and conflicting interests. Therefore, UN bodies, including WHO, must engage more with entities other than governments because the UN charter emphasizes the role of people and not merely governments. We need to build coalitions with whoever is a part of the solution. WHO can play the role of a national convenor to bring several actors together to influence policy dialogue.

Another key challenge is to ensure data-sharing and transparency with adequate safeguards for protecting the data privacy of individuals.

**DATA-SHARING IS BOTH A POLITICAL AND ACADEMIC ISSUE BUT IS CRUCIAL FOR FORMULATING EFFECTIVE HEALTH POLICIES, DESIGNING INTERVENTIONS AND MOUNTING RAPID RESPONSES.**

Some progress was made during the pandemic but much more needs to be done to ensure data-sharing at the regional and global levels. The “European Health Data Space” is a good example of a regional initiative. With Big Data and artificial intelligence (AI) tools becoming available, data-sharing is no more a technological challenge.

As regards the relationship between climate change and health, the world is not yet at a stage where political leadership has started looking at health from an environmental lens, though the evidence on this count is mounting. At present, people see climate change as something that is far off in the future. If we can weave health impact perspectives in the climate change discourse, it would make climate change an urgent issue. Health professionals should provide more evidence of the impact and build a case. This could be done at a regional level because it will be more relevant. Efforts must be made to translate the theoretical concept that climate change and health are linked to concrete action. Evidence of the linkage needs to be collected and then disseminated widely in a user-friendly manner.



# DIALOGUE 2



WHO DIALOGUE 2

# THE INDIA COVID-19 VACCINATION STORY

15 FEBRUARY 2023

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## ABOUT THE SPEAKER

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Professor **Vinod Paul** is a Member (Health), NITI Aayog, Government of India since August 2017. At NITI, he leads the Health, Nutrition and Human Resource Development (HRD) verticals. He has played a pivotal role in the formulation of key initiatives such as Ayushman Bharat-PMJAY, Ayushman Bharat Health and Wellness Centre Scheme, and POSHAN Abhiyaan. Earlier, he served on the faculty of the Department of Paediatrics, All India Institute of Medical Sciences (AIIMS), New Delhi, including as the Head of the Department for nearly a decade. During the COVID-19 pandemic, he chaired the Empowered Group on Medical Infrastructure and COVID Management Plan, National Task Force on COVID-19 and National Expert Group on Vaccine Administration for COVID-19 (NEGVAC). He was conferred the Ihsan Dogramaci Family Health Foundation Prize by WHO in 2018 in recognition of his service in the field of family health.

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## ABOUT THE DIALOGUE

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The talk was delivered on 15 February 2023. The session was chaired by the Regional Director, Dr Poonam Khetrapal Singh. It was a hybrid session where all WHO SE Asia Region country offices were connected online and about 75 professional staff participated in person.





World Health  
Organization









## THE INDIA COVID-19 VACCINATION STORY

The COVID-19 pandemic that hit the world in early 2020 posed new challenges to existing health systems and governance structures in many countries. Several strategies were deployed to address this new danger to people's health and national economies. India responded to the pandemic through an approach of *atmanirbharta* or self-reliance – using indigenous resources, scientific strength and industrial capacity built over the years. This resulted in as many as eight products in India's vaccine wallet, covering practically all the technology platforms. No other country has such a vaccine bouquet. India can produce five billion doses per annum with a typical price to the government of US\$ 3.

**THE HALLMARK OF INDIA'S  
COVID-19 RESPONSE AND  
MANAGEMENT WAS BASED ON  
THE EARLY REALIZATION THAT**

**IT NEEDED A “WHOLE-OF-  
GOVERNMENT” AND “WHOLE-OF-  
SOCIETY” APPROACH AND COULD  
NOT BE LEFT TO THE HEALTH  
MINISTRY ALONE.**

The hallmark of India's COVID-19 response and management was based on the early realization that it needed a “whole-of-government” and “whole-of-society” approach and could not be left to the Health Ministry alone. This approach resulted in the creation of eleven empowered groups covering diagnostics, preparedness, response and management, collaboration with nongovernmental organizations (NGOs) and the international community, economics and finance, oxygen supplies, to name some. Prime Minister Narendra Modi provided the necessary leadership for this strategy while ensuring that states were on board in the federal spirit of the Indian system.

He spoke to state Chief Ministers almost two dozen times during the pandemic. His direct discourse with the public helped address both vaccine hesitancy as well as eagerness for the vaccine, along with adherence to COVID-appropriate behaviour.

**ALL THE COVID-19 VACCINES DEVELOPED IN INDIA HAVE BEEN SCIENTIFICALLY PROVEN TO BE EFFECTIVE, SAFE AND AFFORDABLE AND HAVE AVERTED MILLIONS OF DEATHS. INDIA COULD ACHIEVE THIS ONLY BECAUSE OF ITS ROBUST SCIENTIFIC, INDUSTRIAL AND REGULATORY BASE, AND STRONG POLITICAL WILL.**

India started working on COVID-19 vaccines when the number of confirmed cases was just 57. The National Institute of Virology isolated the virus on 11 March 2020, which incidentally is when WHO declared SARS-CoV-2 as a global pandemic. All scientific departments and other government ministries began discussing strategies to develop novel therapeutic modalities, affordable diagnostics and effective vaccines on 18 March 2020. On 14 April 2020, the Prime Minister gave a call to scientists “to work in the direction of making vaccines and drugs for coronavirus” and made a special request for young scientists to “come forward and take a lead in developing a vaccine for the world, the welfare of the human race”.

As a follow up, the Department of Biotechnology (DBT) launched the “Mission COVID Suraksha”, intending to develop five–six vaccines for licensure. The Government committed Rs 9 billion to be disbursed as grants for vaccine candidates, creation and augmentation of facilities such as immune assay laboratories and clinical trial sites, capabilities for cell line development, and manufacturing. These efforts resulted in a slew of vaccines over the next year.

The first one was Covaxin, a whole virion attenuated vaccine, developed by Bharat Biotech International Ltd. in collaboration with the Indian Council of Medical Research (ICMR). It was an end-to-end indigenous product. The virus was provided by ICMR on 30 April 2020. Bharat Biotech conducted a trial on 24 000 subjects amid the pandemic, and the company got emergency use authorization (EUA) on 3 January 2021.

The second was Covishield, which was developed at Oxford University and manufactured by the Serum Institute of India in Pune. It was followed

by Zycov-D, a DNA vaccine developed by Zydus Cadila, which got EUA on 20 August 2021. Next came Corbevax, a receptor-binding domain protein subunit vaccine, developed at Baylor College of Medicine and manufactured by Biological E in Hyderabad. GEMCOVAC, developed by Genova, is an mRNA vaccine and the world’s first thermo-stable COVID-19 vaccine.

For all these vaccines manufactured in the private sector, DBT provided access to the necessary facilities (assay laboratories, animal facilities and clinical trial sites) and grants for manufacturing – Zydus (Rs 1070 million), Biological E (Rs 1120 million), Gennova (Rs 1250 million), Bharat Biotech (Rs 1000 million for the intranasal vaccine). In addition, Covaxin technology was transferred to four manufacturers (Indian Immunologicals Limited, Hester-GC, BIBCOLD and Haffkine) and they were given grants totalling Rs 2500 million to upgrade their manufacturing systems. While the vaccines were being developed, the National Expert Group on Vaccine Implementation for COVID-19 (NEG-VAC) formed in August 2020 worked on vaccination.

The core enablers of the vaccination strategy were the governance mechanism (NEG-VAC, expert groups, task forces), ramping up of production capacities (augmentation, technology transfer, financial assistance and advance payment), Just-in-Time approach to logistics management for vaccination (Co-WIN and digital infrastructure), and vaccine administration (scientific prioritization). The experience from the Universal Immunization Programme (UIP) and the robust grass-roots network of community health teams were fully leveraged. As many as 100 000 vaccination centres were working on any given day and 97.5% were delivered through the public system. On a single working day, 17 September 2021, a record 25.1 million doses were administered.

**AS PROMISED, INDIA ALSO DELIVERED VACCINE DOSES TO OTHER COUNTRIES, BEGINNING WITH SOUTH ASIA. IN ALL, 101 COUNTRIES RECEIVED 258 MILLION DOSES MANUFACTURED IN INDIA. IN ADDITION, 292 MILLION DOSES MADE ON INDIAN SOIL WERE SHARED WITH COVAX.**

All vaccines developed in India have been scientifically proven to be effective, safe and affordable and have averted millions of deaths. India could achieve this only because of its robust scientific, industrial and regulatory base, and strong political will.



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# DIALOGUE 3



WHO DIALOGUE 3

# CHANGING UNDERSTANDING OF HEALTH SECURITY DURING THE 20TH AND EARLY 21ST CENTURIES

14 SEPTEMBER 2022

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## ABOUT THE SPEAKER

Professor **David Heymann** is the Professor of Infectious Disease Epidemiology at the London School of Hygiene and Tropical Medicine (LSHTM) and Head of the Centre on Global Health Security at Chatham House, London. For 22 years, he was based at WHO in Geneva on secondment from the Centers for Disease Control and Prevention (CDC). During this period, he rose from Chief of Research of the Global Programme on AIDS to Founding Director of the Programme on Emerging and other Communicable Diseases. He then was named Assistant Director for Health Security and the Director-General's Representative for Polio Eradication. Before joining WHO, Professor Heymann was based for 13 years in sub-Saharan Africa on an assignment from CDC.

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## ABOUT THE DIALOGUE

The talk was delivered on 14 September 2022. The session was chaired by Dr Edwin Salvador, Regional Emergencies Director. It was attended by 75 participants.









 World Health Organization  
Timor-Leste





## CHANGING UNDERSTANDING OF HEALTH SECURITY DURING THE 20TH AND EARLY 21ST CENTURIES

The COVID-19 pandemic has placed health security at the centre of global discourse. Health security is interpreted differently in various settings and perspectives. At an individual level, it connotes access to universal health care, while collectively at the country or community level, it represents the threat posed by diseases from across the border. Though the modern concept of health security started with the spread of infectious diseases across borders, it has acquired new dimensions with the experience of the latest pandemic and its definition needs to be widened.

### **A NEW DIMENSION TO HEALTH SECURITY HAS EMERGED DURING**

**THE COVID-19 PANDEMIC. HEALTH SYSTEMS NEED TO BE RESILIENT TO COPE WITH SURGE CAPACITY AND PROVIDE CONTINUITY OF ROUTINE CARE DELIVERY, BESIDES DEVELOPING THE CAPACITY TO DETECT AND RESPOND TO THREATS.**

Humans have been at risk of infections emerging from animals for a long time, and some of them became endemic over the decades. These infections have different transmission pathways – no further transmission (like rabies), continued transmission (with the sporadic occurrence

and threat of re-emergence, like Ebola) and continued transmission and endemicity (like HIV and SARS-CoV-2).

The infectious diseases that posed a threat to health security during the nineteenth and twentieth centuries were smallpox, yellow fever, plague and cholera. This led to an international response in the form of port quarantine systems, sanitary conferences and international sanitary regulations. In 1969, WHO developed the International Health Regulations (IHR). The objective then was “to provide maximum protection against the international spread of infectious diseases with minimal interruption of international travel and trade”. It resulted in actions like notification of diseases, health measures like vaccination and quarantine, and the organization of health systems at borders. However, it was a passive system.

## **THE NEW UNDERSTANDING OF HEALTH SECURITY IS MUCH WIDER – A RESILIENT HEALTH SYSTEM THAT INCLUDES NOT ONLY CARE FACILITIES BUT ALSO EFFECTIVE HEALTH PROMOTION ACTIVITIES TO MAKE POPULATIONS MORE HEALTHY.**

The prevailing health security system was shaken up when SARS occurred in 2003 because political leaders realized that infectious diseases cannot be detected and stopped at borders alone. They need to do much more to achieve health security. The international community responded by expanding the International Health Regulations (IHR) to include all public health threats in 2005 and a proactive system of real-time surveillance and reporting was introduced. The response strategy changed from control at the borders to detection and containment.

The revised IHR (2005) mandated the strengthening of core capacities at the national level to ensure surveillance and control so that they could detect and respond to new infections and prevent their spread nationally and to other countries. The reporting of all possible Public Health Emergencies of International Concern (PHEIC) was made mandatory. WHO constituted an Emergency Committee to review information about outbreaks of concern and empowered the Director-General to mount a global or regional response based on the advice of the Emergency Committee. However, leaving the

decision to WHO headquarters about PHEIC is a weakness in the IHR (2005) framework. WHO regional offices should be given a greater role in determining a regional response to a public health emergency so that they can initiate an early response at the regional level.

National capacities and their reporting to WHO proved critical in responding to the Ebola outbreak in 2014–2015. A new dimension to health security emerged during the COVID-19 pandemic. Health systems need to be resilient to cope with surge capacity and provide continuity of routine care delivery, besides developing the capacity to detect and respond to threats. During the COVID-19 pandemic, health systems collapsed in some countries in the northern hemisphere because they were overwhelmed with infection occurring among those with comorbidities. In addition, there were excess deaths other than those due to COVID-19 because health facilities were occupied by those with COVID-19. In this context, health security would also imply more effective health promotion so that countries have healthier populations that can resist infections better. People with noncommunicable diseases (NCDs) were at the greatest risk of death, other than the elderly.

Most new infections are emerging due to an increased human–animal interface. The concept of health security, therefore, should include joint surveillance and response in partnership with human and animal health, and the environment. IHR (2005) has certain other gaps. For instance, it does not talk about equitable distribution of vaccines or drugs or diagnostic tests – all of which are needed to end a pandemic. IHR (2005) was developed at a time when WHO did the risk assessment based on the information it received from countries in different regions. Now, countries can do their risk assessment based on information flowing from different sources.

Given this experience, there is a discussion about a new health security framework. It could be in the form of a pandemic treaty, which may strengthen the IHR (2005) or replace parts of it. Thus, the new understanding of health security is much wider – a resilient health system that includes not only care facilities but also effective health promotion activities to make populations more healthy; a health system that does not collapse and continues to take care of infections from an outbreak as well as routine health needs; a strong public health system capable of containing outbreaks as and when they occur.



# DIALOGUE 4



WHO DIALOGUE 4

# BEIJING+25: REALIZING WOMEN'S RIGHTS

11 MARCH 2020

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## ABOUT THE SPEAKER

**Ms Suneeta Dhar** is a Senior Advisor at Jagori, a feminist organization based in New Delhi, India. Jagori works on ending violence against women, building safer cities for women and girls and advancing women's leadership. As an educator, advocate and participatory researcher, Ms Dhar has designed multi-stakeholder programmes contributing to policy, knowledge-building and best practices on ending violence against women and advancing gender equality. She facilitates training for policy-makers, government officials, civil society organizations and women leaders in communities. She has earlier worked with UNIFEM at its New Delhi and New York offices. She is a Co-Founding Director and Board Member of the Women's Fund Asia (Colombo), and Co-Founder and Chair of the South Asia Foundation (India).

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## ABOUT THE DIALOGUE

The Dialogue was conducted on 11 March 2020. Over 45 participants from the Regional Office and several others from the country offices were connected online and in physical mode. The session was chaired by the Regional Director, Dr Poonam Khetrpal Singh.











## BEIJING+25: REALIZING WOMEN'S RIGHTS

The Beijing Conference on Women, officially known as the Fourth World Conference on Women, was held in Beijing in September 1995. It was a significant milestone that brought together representatives from governments, nongovernmental organizations and women's rights activists from around the world. It sought to bring focus on gender equality, women's empowerment, and the advancement of women's rights globally. The Indian delegation included women's rights activists and women working at the grass-roots level besides government representatives.

**SINCE THE BEIJING CONFERENCE, SEVERAL LAWS HAVE BEEN ENACTED TO END DISCRIMINATION AGAINST WOMEN, MANY MORE**

**GIRLS ARE IN SCHOOLS THAN BEFORE, MATERNAL MORTALITY HAS DECLINED, AND THERE ARE OTHER ACHIEVEMENTS. BUT WE NEED MORE WOMEN IN POLITICS, THE FEMINIZATION OF POVERTY REMAINS AND UNPAID CARE IS ALSO A CHALLENGE.**

The Beijing Declaration and Platform for Action, adopted at the Conference, identified twelve critical areas of concern that required attention and action to achieve gender equality and women's empowerment. These included women and poverty; education and training; women and health; violence against women; women

and armed conflict; women and the economy; women in power and decision-making; institutional mechanisms for the advancement of women; human rights of women; women and the media; women and the environment; and the girl child. The progress achieved by different countries in each of these parameters has been reviewed every five years. UNIFEM instituted mechanisms to monitor follow-up action in South Asia. Subsequently, UN Women was established as a dedicated agency.

### **SEXUAL HARASSMENT IN THE WORKPLACE IS A CHALLENGE BECAUSE IMPLEMENTATION MECHANISMS ARE WEAK AND THE LEGAL FRAMEWORK NEEDS STRENGTHENING.**

The world has seen important gains since the adoption of the Beijing Declaration. Nearly 250 laws concerning gender quality have been enacted, more girls are going to schools, and maternal mortality has seen a decline. In India, several laws have been enacted against child marriage, prenatal sex selection, domestic and sexual violence, sexual harassment in public places and at the workplace, maternity benefits, etc. There has been a reduction in child marriages to 26.8% in 2015–2016 from 47.4% a decade ago. The number of women in politics has also risen. Yet the overall progress is slow. In 2020, India stood at position 112 in the Global Gender Gap Index, which ranked 153 countries. India is the only country where the economic gender gap is larger than the political gender gap. Women working in the informal sector are denied labour rights and social protection is lacking. The scorecard on women, prepared by the NITI Aayog, shows that 8.7% of seats in legislative bodies are held by women; one in three Indian women experience spousal violence; 13.9% of women have landholdings in their names; though women work on farms, they are not considered as farmers; the sex ratio at birth declined from 927 in 2001 to 919 in 2011. Sexual harassment at the workplace is a challenge because implementation mechanisms are weak and the legal framework needs strengthening.

Different women-related laws have been enacted in India but there are gaps in

implementation. The draft National Policy on Women unveiled in 2016 is still awaiting finalization and adoption. The Policy would have ensured gender mainstreaming across all sectors and ministries. The lack of disaggregated data across gender, age, caste, class, disability, tribe, marital status, location, occupation is another challenge. There are gaps in existing systems of data collection. For instance, suicides by women farmers are recorded in the crime records as deaths of housewives. A UN Women report shows that a young woman from a poor rural household is over five times more likely to marry before the age of 18 years and become an adolescent mother than one in a rich urban household. She also faces several other forms of discrimination. So, the need is to focus on the intersecting forms of discrimination.

### **ACTIONS SHOULD BE ACCELERATED TO REMOVE THE STRUCTURAL AND SYSTEMIC BARRIERS THAT WOMEN FACE GLOBALLY.**

While significant strides have been made in the past 25 years, progress towards gender equality remains uneven and there are persistent challenges and gaps. To address these challenges, the Generation Equality campaign has been launched to reinvigorate global efforts towards achieving gender equality and women's rights by mobilizing all stakeholders. It also seeks to inspire a new wave of action and activism by engaging and mobilizing young people to let them champion gender equality and women's rights. Reviews of the progress since 1995 have shown that not a single country has achieved gender equality. So, a new roadmap has been prepared for Beijing+ and the decade from now onward will be the decade of action. Regional civil society organizations, which reviewed the progress since the Beijing Conference, have called for strengthening gender architecture and accountability at all levels. We need more women in politics; the feminization of poverty is still prevalent, the burden of unpaid care work on women is high, and women are also getting affected by climate injustice. Actions should be accelerated to remove the structural and systemic barriers women face globally.



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## DIALOGUE 5





WHO DIALOGUE 5

# VITAMIN D DEFICIENCY IN THE SOUTH-EAST ASIA REGION: THE WAY FORWARD

23 NOVEMBER 2022

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## ABOUT THE SPEAKER

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**Dr Ambrish Mittal** is Chairman, Institute of Endocrinology and Diabetes, Max Health Care, New Delhi, India. He is the President of All India Institute of Medical Sciences, Gorakhpur, India. In 2021 he was presented the Laureate Award from the Endocrine Society of USA for International Excellence. He has been the recipient of the Fogarty Fellowship (Harvard Medical School), Japan International Cooperation Agency Fellowship, Boy Frame Award of the American Society for Bone and Mineral Research and International Osteoporosis Federation (IOF) Amgen Health Professionals Award.

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## ABOUT THE DIALOGUE

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Dr Mittal delivered the talk on 23 November 2022 and the session was chaired by Dr Razia PendsePendse, Director, HPN. It was attended by 170 WHO staff members from the Regional Office and country offices.









## VITAMIN D DEFICIENCY IN THE SOUTH-EAST ASIA REGION: THE WAY FORWARD

Vitamin D plays a vital role in the human body as it regulates calcium-phosphorus homeostasis and controls bone metabolism. While conventionally it is known that vitamin D is essential for the absorption of calcium from the gut, a new body of evidence shows that vitamin D receptors (VDR) are distributed widely across the human body. Therefore, the effects of vitamin D deficiency can be spread across the body and not just the skeletal system.

**THERE IS VERY POOR SYNTHESIS OF VITAMIN D AMONG PEOPLE LIVING IN CITIES. BECAUSE OF ATMOSPHERIC POLLUTION, UV RAYS GET SCATTERED**

**AND THEY DO NOT REACH THE SKIN. THIS EXPLAINS WHY THERE IS VITAMIN D DEFICIENCY DESPITE EXPOSURE TO SUNLIGHT IN LARGER CITIES IN INDIA.**

The best known way of vitamin D synthesis in the body is through exposure to ultraviolet (UV) light from solar radiation. Given this route, the difference in skin types plays a major role. People with pigmented skin, therefore, require longer exposure for the photosynthesis of vitamin D. Though there is no scientific consensus about the definitions of vitamin D status, a level above 20 ng/mL is considered the cut-off for vitamin D sufficiency.



## **POPULATION-WIDE DATA ABOUT VITAMIN D DEFICIENCY ARE SKETCHY, BUT AVAILABLE DATA SHOW THAT THERE IS WIDESPREAD VITAMIN D DEFICIENCY IN ASIA.**

The prevalence of vitamin D deficiency is high in Bangladesh, India, Nepal, Pakistan and Sri Lanka, despite plentiful availability of sunshine. In a tropical country like India, there is a lot of difference in vitamin D synthesis due to seasonal variation across different regions in the country. There is very poor synthesis among people living in cities. Because of atmospheric pollution, UV rays get scattered and they do not reach the skin. This explains why there is vitamin D deficiency despite exposure to sunlight in larger cities in India. Other reasons for the different levels of vitamin D among Indians are the difference in latitude, seasonal variations across regions, exposure time during the day, cloud cover and atmospheric pollution, time spent outside, customary dress (that covers most of the body) and increasing use of sunscreen.

## **SYSTEMATIC VITAMIN D FORTIFICATION IS A SAFE AND EFFECTIVE APPROACH, AND DAIRY PRODUCTS COULD BE USED FOR FORTIFICATION.**

On the other hand, developed countries away from the equator where UV exposure is less do not show vitamin D deficiency. This is because of the fortification of food products with vitamin D for a long time. Even before vitamin D was discovered, the use of cod liver oil (a source of vitamin D) was propagated for protection against rickets. Vitamin D fortification was introduced in the 1930s and 1940s in the USA, the United Kingdom and other countries. This has not only prevented deficiency but has also changed the profile of certain disease conditions. For instance, bone loss is not reported in parathyroid disease in developed countries whereas severe bone disease is seen in patients with this condition

in India and other countries with vitamin D-deficient populations.

This brings into focus the role of fortification in addressing deficiency at the population level. Among the different approaches to improving vitamin D status in the population are increasing solar UV-B exposure, increasing the intake of natural vitamin D-containing food like fatty fish and promoting vitamin D supplements. All these options pose challenges at the implementation level. UV exposure is not a practical option, given urban lifestyles and problems like pollution. Supplements work but adherence, wrong dose and overdose pose problems. Low, daily doses can be managed without testing the level to avoid added costs but larger, spaced-out doses without monitoring the level is problematic. In such a scenario, food fortification could be a public health solution to address vitamin D deficiency.

Countries where fortification has been implemented have done so through different means – addition to food, bioaddition, biofortification, among others. In Finland, a systematic voluntary food fortification programme was introduced in 2003. Vitamin D in small doses was added to fluid milk products. By 2011, the mean serum concentration of vitamin D went up to 65.4 nanomoles/L from 47.6 nanomoles/L in 2000. A randomized controlled trial (RCT) conducted among infants in Thailand has shown that supplementation helped to improve vitamin D levels.

Before fortification is implemented, it is critical to generate populationwide data on vitamin D status. Some experts have suggested that fortification could be implemented if the level of vitamin D is below 10 ng in at least 2.5% of the population. This can be modelled using data on other sources of vitamin D such as fish intake, local dietary habits, etc. Fortification can be targeted, voluntary or mass, depending on the situation in a country or province. Such programmes would need continuous evaluation and monitoring so that the dose and the method of fortification could be revised accordingly. Systematic vitamin D fortification is a safe and effective approach, and dairy products could be used for fortification.



# DIALOGUE

6





WHO DIALOGUE 6

# BETTER EVIDENCE FOR BETTER HEALTH SYSTEMS: WHAT IS NEXT FOR QUALITY?

17 NOVEMBER 2022

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## ABOUT THE SPEAKER

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Professor **Margret Kruk** is the Professor of Health Systems at Harvard TH Chan School of Public Health. Her research generates evidence on how health systems can improve health for people living in low-income countries. Dr Kruk and her team use implementation science and econometric methods to evaluate large-scale health system reforms. She is the Director of the QuEST Centers and Network, a multicountry collaboration to produce a global evidence base for improving health systems. Before coming to Harvard, she was Director of the Better Health Systems Initiative at Columbia University and Assistant Professor of Health Management and Policy at the University of Michigan.

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## ABOUT THE DIALOGUE

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The talk was delivered on 17 November 2022 and the session was moderated by Mr Manoj Jhalani, Director of the Health Systems Division. It was attended by 75 participants.





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## BETTER EVIDENCE FOR BETTER HEALTH SYSTEMS: WHAT IS NEXT FOR QUALITY?

The Lancet Global Health Commission on Quality Health Systems has found that three key attributes can be used to determine the quality of a health system – consistent delivery of care that improves or maintains health, ability to generate trust by demonstrating value to all sections of the population, and its ability to respond to changing population needs. A health system is a living institution that has to demonstrate these features and its capability to adapt. Building on this insight, the Commission proposed a high-quality health system framework that identified governance, finance, the role of non-health sectors, organizational models, workforce and tools as the key foundations on which a system is built. In addition, the Commission included the population as a key part of the foundations

of a health system. These foundations work in tandem to produce three processes of care – competent care, competent systems and positive user experience, which result in better health care and confidence in the system.

**THE QUALITY OF CARE AND DELIVERY IS AN AREA OF CONCERN ACROSS THE WORLD. EVERY YEAR, 8.6 MILLION PEOPLE DIE OF TREATABLE DISEASES, AND 60% OF THEM DUE TO POOR QUALITY AND/OR NON-UTILIZATION OF CARE (WHICH RESULTS FROM POOR**



## QUALITY IN THE FIRST PLACE).

The quality of care and delivery is an area of concern across the world. Every year, 8.6 million people die of treatable diseases, and 60% of them due to poor quality and/or non-utilization of care (which results from poor quality in the first place). The Commission also found that providers perform only half of the clinical actions (such as questions on the previous history, investigations, etc.) recommended for common services such as family planning and sick child care. For instance, there is inadequate care for severely ill children. Providers are not distinguishing who needs care. There are serious gaps in the care cascades for TB, diabetes and hypertension in countries in the SE Asia Region. All this reflects poor system competence.

The user experience, overall, was found to be poor, with one third of the patients experiencing disrespectful care, short consultations, poor communication and long waiting periods. In low- and middle-income countries (LMICs), less than one person out of four believes that the health system works well.

## **WE HAVE DEVELOPED A NETWORK, QUALITY EVIDENCE FOR HEALTH SYSTEM TRANSFORMATION (QuEST), TO SUPPORT THE TRANSFORMATION OF QUALITY HEALTH SYSTEMS BY IMPROVING MEASUREMENT, DEVELOPING TESTING SOLUTIONS AND CREATING GENERALIZABLE KNOWLEDGE IN PARTNERSHIP WITH CHANGE-MAKERS IN LMICs.**

When it comes to quality improvement, there are several prevalent myths. For instance, training health workers is often thought to be a panacea. Data show that short-term, in-service training of providers, which is often deployed for quality gains, is not enough. Similarly, checklists and protocols are effective but weak health systems need structural changes, not just checklists.

Therefore, the Commission has suggested structural reforms focused on quality governance (stronger quality regulations), modernization of pre-service education, redesigning delivery (aligning it with new

challenges such as noncommunicable diseases [NCDs]) and igniting demand among users. For measuring quality, the thrust should be on fewer but better yardsticks such as mortality and morbidity, competent care and systems (accurate diagnosis, correct treatment time for cancer, etc.), patient experience and confidence.

We have developed a network, Quality Evidence for Health System Transformation (QuEST), to support the transformation of quality health systems by improving measurement, developing testing solutions and creating generalizable knowledge in partnership with change-makers in LMICs.

The network has developed courses for researchers and specialists to share knowledge about quality measurement and also localize it to different settings. Another course to be launched in October 2023 will be for policy-makers and managers, nongovernmental organizations (NGOs) and multilateral agencies. On the research side, the network is developing a “people’s voice survey” (PVS) – a rapid assessment of health system performance from users’ perspectives. Policy-makers are allergic to user complaints that come from newspapers and the social media, so they need to be presented with evidence. PVS could be a valid and reliable tool for understanding the user perspective and knowing what is or is not working on the ground. Another research programme is E-cohorts to measure longitudinal care quality and identify quality deficits.

In addition, the network will co-develop and evaluate care reorganization models to optimize health outcomes. The care models will look at 3 Ws – who should be benefiting from the service, what services he or she should get and where – with the objective of maximizing outcomes and not costs. The network, through all its efforts, is trying to create a partnership between researchers and policy-makers. It is critical to involve people (users and non-users) in the conversations about redesigning care models. Every sector cares about its users except the health sector.

While measuring quality, a fine balance should be struck between measuring outcomes and processes. Focusing only on outcomes does not give a full picture because any outcome is also a result of contributions from several non-health systems. Measuring processes is also important because it has an impact on the outcome. So, we need a blend of the two sets of measurements.



# DIALOGUE

7





WHO DIALOGUE 7

# HOW MODERN SCIENCE IS IMPACTING HEALTH CARE AND PUBLIC HEALTH

3 MAY 2023

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## ABOUT THE SPEAKER

Professor **Nirmal Kumar Ganguly** is the former Director-General of the Indian Council of Medical Research and former President of the National Academy of Medical Sciences. Earlier, he served as Director of the Post Graduate Institute of Medical Education and Research, Chandigarh and National Institute of Biologicals. He is a Fellow of the Imperial College, Royal College of Pathologists, the London School of Hygiene and Tropical Medicine, and several medical and scientific academies. He served as a board member for the Canada Innovation Fund and Grand Challenges Canada. Professor Ganguly has chaired the International Vaccine Institute Cholera Board (CHOVI), WHO's Advisory Council for Health Research, and United Nations Children's Fund SAG TDR and NTD Scientific Board. He also chairs the WHO South-East Asia Regional Technical Advisory Group for the elimination of kala-azar.

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## ABOUT THE DIALOGUE

The talk was delivered on 3 May 2023, and the session was moderated by Dr Pem Namgyal, Director of Programme and Management, in the presence of Dr Poonam Khetrpal Singh, Regional Director, WHO Regional Office for South-East Asia. It was attended by 65 staff members from the Regional Office and country offices.









## HOW MODERN SCIENCE IS IMPACTING HEALTH CARE AND PUBLIC HEALTH

Modern science has had a significant impact on health care and public health in Asia, improving diagnosis, treatment, prevention, and overall health-care delivery. It generates new knowledge, which needs to be managed and then translated into usable products and services. In recent decades, medical scientists in countries of the South-East (SE) Asia Region have contributed a great deal to the generation of new ideas and knowledge in the health sector. Many of them have led to the development of new products and practices in areas ranging from vector-borne diseases to artificial intelligence. This knowledge needs to be shared widely among countries in the Region.

**INDIAN SCIENTISTS HAVE USED PROTEOMICS TO DEVELOP A SET OF PROTEIN BIOMARKERS THAT COULD**

**BE USED FOR THE PREDICTION OF DENGUE SEVERITY IN PAEDIATRIC POPULATIONS. THIS OPENS UP THE POSSIBILITY OF DEVELOPING AN EARLY DETECTION KIT IN THE FUTURE.**

Vector-borne diseases account for a significant part of the disease burden in the Region, and new ideas in this sector can help address the challenge. Gravid traps are typically designed to mimic the conditions that attract gravid (pregnant) female mosquitoes. Once inside the trap, the mosquitoes are either physically trapped or killed. The Vector Control Research Centre (VCRC) in India has developed a gravid trap for collecting adult *Culex* mosquitoes. It has been used in field studies as an effective



tool for surveillance and control of mosquito populations. It aids in monitoring the presence and abundance of mosquitoes in specific areas, allowing its use in Transmission Assessment Survey and post-mass drug administration (MDA) surveillance for lymphatic filariasis (LF) elimination. The National Malaria Research Institute (NMRI) in New Delhi has developed a cellular pad-based reusable ovitrap for household use as well as for surveillance. The device can come in handy for mosquito surveillance as vector-borne diseases spread to new areas due to the impacts of climate change. Such new devices are useful to map endemic and non-endemic areas for a range of vector-borne diseases.

**THE TRUENAT DIAGNOSTIC, DEVELOPED BY AN INDIAN BIOTECH COMPANY, IS A MOLECULAR DIAGNOSTIC PLATFORM PRIMARILY USED FOR THE DIAGNOSIS OF TUBERCULOSIS BUT CAN ALSO BE APPLIED TO OTHER INFECTIOUS DISEASES.**

Indian scientists have used proteomics to develop a set of protein biomarkers that could be used for the prediction of dengue severity in paediatric populations. This opens up the possibility of developing an early detection kit in the future. A large number of people die due to neonatal and adult sepsis during hospitalization every year. Researchers have developed some biomarkers that can help address sepsis in very low-birth weight neonates.

In the area of mother and child health, several technologies are on the horizon, which could help bring down maternal and child mortality rates substantially by 2030. These include injectable contraceptives, pulse oximeters, kangaroo mother care, chlorinator for small-scale water treatment, chlorhexidine for umbilical cord care, potent single-dose antimalaria drug, neonatal resuscitators, uterine balloon tamponade, a new formulation of oxytocin and rice fortification. These are simple technologies available for use. All we need are the right policies and incentives to upscale them.

Antimicrobial resistance (AMR) is another area where modern science is helping to

address this challenge. Different technological approaches are being tried to develop quick, easy and less expensive methods of AMR diagnosis. For instance, a microfluidics chip-based beta-lactamase detection system has been developed for a range of antibiotics with a small sample quantity. It enables the classification of susceptible and resistant antibiotics. The objective is to develop a biochip that uses a disposable device and a chromogenic dye. In this, bacterial cells are distributed evenly in the chip by capillary action and red-coloured cells can then be visually identified.

The TrueNat diagnostic, developed by an Indian biotech company, is a molecular diagnostic platform primarily used for the diagnosis of tuberculosis (TB) but can also be applied to other infectious diseases. It makes use of real-time polymerase chain reaction (PCR) technology to detect the presence of specific genetic material of the target pathogen. WHO endorsed it in 2017 as a rapid molecular test for the detection of TB and drug-resistant TB. It offers several advantages over traditional laboratory methods, including faster turnaround time, simplicity of operation, and portability.

Another remarkable development is FELUDA – FNCAS9 Editor-Limited Uniform Detection Assay – a diagnostic test developed by the Council of Scientific and Industrial Research for the detection of COVID-19. It is based on the CRISPR-Cas9 gene-editing technology. The rapid and highly accurate test works by identifying specific genetic sequences of the virus in a sample. In the field of neurological diseases, several new developments are being reported from India. For instance, an Indian group is working on potential therapeutic approaches to Parkinson disease using bacterial peptides. New drugs are also being developed for the treatment of pulmonary hypertension. Going ahead, we are witnessing increasing clinical application of deep learning and predictive analysis.

**THE NEED OF THE HOUR IS THE DISSEMINATION OF AVAILABLE KNOWLEDGE AMONG COUNTRIES IN THE REGION SO THAT IT CAN BE USED WIDELY TO IMPROVE HEALTH OUTCOMES.**



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# DIALOGUE 8





WHO DIALOGUE 8

# COVID-19 IMMUNIZATION TRACKER AND SMART VACCINATION CERTIFICATE: EXPERIENCES FROM SRI LANKA

7 DECEMBER 2021

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## ABOUT THE SPEAKER

**Dr Palitha Karunapema** is the Director (Health Information) at the Ministry of Health, Government of Sri Lanka. He is also a consultant community physician with vast experience.

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## ABOUT THE DIALOGUE

The talk was delivered on 7 December 2021. The session was chaired by the Director of the Health Systems Division, Mr Manoj Jhalani, and attended by 56 participants from the Region. The data cited in the talk were as of the first week of December 2021.









## COVID-19 IMMUNIZATION TRACKER AND SMART VACCINATION CERTIFICATE: EXPERIENCES FROM SRI LANKA

Digital health technologies and tools can help to reduce inefficiencies, improve access, cut costs, enhance the quality of health services and make health care more personalized. During the COVID-19 pandemic, countries around the world implemented various methods to track immunization and issue digital certificates. These measures were intended to provide proof of vaccination and facilitate the verification of individuals' immunization status. Sri Lanka developed the COVID-19 Immunization Tracker (CIT) and smart vaccination certificate. This is a health information management tool that captures and analyses individual-level vaccination information. Timor-Leste has also adopted this solution.

**THE TRACKER PROVIDED FOR CAPTURING DATA SUCH AS AGE,**

**GENDER, GEOLOCATION AND VACCINE PRODUCT AT AN INDIVIDUAL LEVEL. IT HELPED MEASURE COVERAGE OVER TIME BY GEOGRAPHICAL AREA AND TARGET GROUP AS WELL AS IN MONITORING THE IMPLEMENTATION OF NATIONAL POLICIES.**

CIT was designed and developed as a collaborative effort among the Ministry of Health, Information and Communication Technology Agency, WHO and the University of Oslo. The objective was to obtain real-time disaggregated data for proper monitoring and evaluation of implementation of the vaccination process. The tracker provided for capturing data such as age, gender, geolocation and vaccine product at an individual level. It helped



measure coverage over time by geographical area and target groups as well as in monitoring the implementation of national policies. It also captured data on adverse effects following immunization (AEFI). Its data visualization tool helped in decision-making at all levels – local, district and national. In addition, the system made available the data for use in surveys, safety and disease surveillance, and vaccine-related studies. The application was developed on the WHO District Health Information Software (DHIS)-2 platform – the first one in the world to do so.

An associated digital innovation was the smart vaccination certificate (SVC), which contained a quick-response (QR) code and was cryptographically verifiable. It included all relevant information like vaccine doses and was non-replicable, following WHO guidelines. The certificate was internationally recognized, thus facilitating the travel of vaccinated individuals. An SVC verification portal was also developed to allow verification of vaccine certificates at entry points and other places, using a QR code for verification. An SVC is given to whoever needs it.

### **TO BOOST SOUTH-SOUTH COOPERATION, SRI LANKA SHARED THE METADATA OF CIT WITH TIMOR-LESTE TO HELP IT DEVELOP A VACCINE INFORMATION SYSTEM THAT SUITED LOCAL NEEDS. SUCH COOPERATION COULD GO A LONG WAY IN DISSEMINATING DIGITAL TOOLS AMONG COUNTRIES IN THE SE ASIA REGION.**

The third digital intervention implemented in Sri Lanka was the National COVID-19 Health Information System. It generated decision support dashboards with information such as cases, facilities, management outcomes and vaccination. This system helped in making high-quality data related to polymerase chain reaction/rapid antigen test (PCR/RAT) results available in real-time for easy decision-making. The system was developed in-house by the Ministry of Health.

To boost South-South cooperation, Sri Lanka shared the metadata of CIT with Timor-Leste to help it develop a vaccine information system that suited local needs. Such cooperation could go a long way in disseminating digital tools among countries in the SE Asia Region. Sri Lanka offered to share the CIT metadata with other countries. The digital health interventions implemented in Sri Lanka could be useful in the post-COVID period as well for monitoring vaccine efficacy, follow-up studies, facilitating researchers and similar applications. It can also be used to capture data relating to other diseases and epidemics. However, the introduction of digital interventions needs to be carefully planned. It needs adequate consultation among all stakeholders, an agile development process, timely availability of resources and support from the political leadership. Capacity-building and infrastructure quality are some of the challenges in the implementation of digital interventions. In the initial phase, there was low acceptance of the digital tool among health workers, and this had to be overcome with training and familiarization sessions. Internet connectivity was poor in some areas, leading to delays in real-time data entry.

For digital health interventions to yield the desired results, they should not be implemented in isolation but as a part of a broad digital strategic framework and digital health architecture plan that can support such interventions. It is critical to improve all the building blocks of digital health and not just one or two applications.

Dr Achala Jayatilleke from WHO Timor-Leste gave a brief overview of implementing the Timor-Leste Health Information System COVID-19 Immunization Tracker (TLHIS-CIT). The available TLHIS was expanded early on to also include COVID-19 vaccination even as vaccine doses became available in early 2021. TLHIS has been used since 2017 to manage routine health information in the form of aggregated data. Since there was little time to develop a new application, it was decided to customize the CIT developed in Sri Lanka and integrate it with TLHIS. Another reason to include CIT in TLHIS was the fact that users were familiar with the DHIS-2 platform on which the existing system was based. When the vaccine supplies arrived in April 2021, the digital system for tracking vaccination was in place.



# DIALOGUE







WHO DIALOGUE 9

# COVID-19: A NEW GLOBAL CHALLENGE

12 MARCH 2020

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## ABOUT THE SPEAKER

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**Dr Randeep Guleria**, a globally acclaimed expert in pulmonary medicine, has worked at the All India Institute of Medical Sciences (AIIMS), New Delhi, in various capacities for over 25 years. He was a Professor of Pulmonary Medicine and Sleep Disorders and then served as Director of the Institute. He was the first Indian to get a Doctorate of Medicine (DM) in Pulmonary and Critical Care Medicine. Dr Guleria has published over 400 papers in international and national journals and written 49 chapters in technical and academic books. He has actively supported various environmental causes and has been an expert at various environmental forums concerning air pollution.

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## ABOUT THE DIALOGUE

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The Dialogue was held on 12 March 2020, and reflects the scientific understanding of COVID-19 till that day. At that time, Dr Guleria was serving as the Director of AIIMS, New Delhi. A hybrid session was held, where country offices were connected online. In this Dialogue, various partners of WHO were also invited. About 45 participants, including ambassadors of various Member States and partner agencies, participated in the dialogue. Dr Roderico Ofrin, Director World Health Emergencies, chaired the session.









## COVID-19: A NEW GLOBAL CHALLENGE

In March 2020, a novel virus that had emerged a few months back started spreading across the world and posed a new challenge to health agencies in the SE Asia Region. The virus responsible for the COVID-19 disease was identified as a novel coronavirus, initially named SARS-CoV-2 (severe acute respiratory syndrome coronavirus 2). It was believed to have originated in Wuhan, Hubei Province, China, in late 2019, and was primarily transmitted through respiratory droplets when an infected person coughed or sneezed.

**IT BECAME CLEAR IN THE EARLY PHASE THAT OLDER PERSONS AND INDIVIDUALS WITH UNDERLYING HEALTH CONDITIONS SUCH AS**

**CARDIOVASCULAR AND CHRONIC RESPIRATORY DISEASES WERE AT A HIGHER RISK OF SEVERE ILLNESS OR COMPLICATIONS FROM COVID-19.**

The novel virus spread to multiple countries and WHO declared it a pandemic on 11 March 2020. It was recommended that implementing public health measures such as practising good hand hygiene, maintaining a physical distance, wearing masks, and implementing travel restrictions, could help control the spread of the virus. Close contact with an infected person and touching contaminated surfaces were considered potential modes of transmission. Since the viral load was high and



patients continued to shed it, the threat of spread to health workers was very high. Among its most common clinical symptoms identified initially were fever, cough and difficulty in breathing. However, it was understood that the spectrum of symptoms could range from mild to severe, and that some individuals might remain asymptomatic.

Coronaviruses have been around and cause disease from time to time. In 2002, a SARS outbreak occurred in which 20–30% of cases required mechanical ventilation and the mortality was 10%. Ten years later, an outbreak of another coronavirus, Middle East Respiratory Syndrome (MERS), was reported. It had severe symptoms; 50–89% of cases required ventilation and the mortality was 36%. SARS-CoV-2 presented with a spectrum of clinical infections ranging from mild uncomplicated illness to severe respiratory distress. The case fatality rate due to the novel coronavirus seemed low in the early phase of the pandemic. Most of the earlier pandemics were due to H1N1 viruses, whereas this was the first pandemic due to a coronavirus.

### **THE PANDEMIC IS POSING NEW CHALLENGES IN THE FORM OF MISINFORMATION ON SOCIAL MEDIA LEADING TO BIAS AND DISCRIMINATION.**

It became clear in the early phase that older persons and individuals with underlying health conditions such as cardiovascular disease, diabetes, chronic respiratory disease and a compromised immune system were at a higher risk of severe illness or complications from COVID-19. Diagnostic tests such as reverse transcriptase-polymerase chain reaction (RT-PCR) could be used to detect the virus in respiratory samples. Testing strategies focused on identifying and isolating infected individuals to prevent further transmission. In the early phase, there were no specific antiviral treatments or vaccines available, and symptomatic treatment and management of complications remained the main approach to patient care.

The pandemic has demonstrated that we need to prepare plans at the global and national levels for frequent outbreaks of new viruses or re-emergence of known viruses as the world becomes smaller and pathogens jump species. International travel is a major factor behind the spread of infections. Data emerging from new studies have shown a correlation between travel from mainland China to different parts of the world and the spread of COVID-19.

### **THE PANDEMIC HAS DEMONSTRATED THAT WE NEED TO PREPARE PLANS AT THE GLOBAL AND NATIONAL LEVELS FOR FREQUENT OUTBREAKS OF NEW VIRUSES OR RE-EMERGENCE OF KNOWN VIRUSES AS THE WORLD BECOMES SMALLER AND PATHOGENS JUMP SPECIES.**

The pandemic has posed new challenges for health systems in terms of hospital facilities, human resources, infection control, equipment such as ventilators, availability of personal protective equipment (PPE) and masks, prioritization of services and preventing panic among the general public. In addition, the pandemic is posing new challenges in the form of misinformation on social media leading to bias and discrimination.

The understanding of COVID-19 has evolved significantly since then as a result of research and new studies that provided new insights into the virus, its variants, treatment, and prevention strategies. The availability of vaccines subsequently helped the world fight the pandemic.



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# DIALOGUE 10





WHO DIALOGUE 10

# MAX HEALTHCARE'S EXPERIENCE OF COVID-19 MANAGEMENT: PERSPECTIVE FROM AN INDIAN PREMIERE SUPERSPECIALTY HEALTH CARE CHAIN

10 JANUARY 2022

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## ABOUT THE SPEAKER

**Dr Sandeep Budhiraja** is the Group Medical Director of Max Healthcare and Senior Director and Head, Institute of Internal Medicine, Max Healthcare, New Delhi, India. He is responsible for overseeing medical quality, clinical governance, credentialing, medical education, research and training. He has clinical experience of over three decades in internal medicine. He has served as a member of the Sub-Group for Oxygen Audit for the NCT of Delhi, formed by the Supreme Court of India in 2021.

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## ABOUT THE DIALOGUE

The talk was delivered on 10 January 2022. The session was chaired by Dr Edwin Salvador, Director, Regional Emergencies Department, and attended by 32 participants.







## MAX HEALTHCARE'S EXPERIENCE OF COVID-19 MANAGEMENT: PERSPECTIVE FROM AN INDIAN PREMIERE SUPERSPECIALTY HEALTH CARE CHAIN

The COVID-19 pandemic posed great challenges for health systems everywhere in the world. In India, the public health system worked in tandem with the vast private health sector to address the challenges during the pandemic. Max Healthcare is the second-largest hospital chain in India, spread over north India and metro cities in other parts of the country, with a total bed strength of 3400. In addition to patient care in the tertiary and quaternary segments, it has a strong focus on research and education. At any given time, the chain has 450 doctors and postgraduates in training.

### THE HOSPITAL CHAIN ADDRESSED COVID-19 DISEASE BY REORIENTING ITSELF IN THREE ASPECTS

#### – INFRASTRUCTURE AND TECHNOLOGY, PEOPLE AND PROCESS – ACROSS THE GROUP'S HOSPITALS.

During the pandemic, the hospital chain handled a huge number of inpatients – over 20 000 during the first wave, over 12 000 during the second wave and about 600 during the third wave (Omicron) till January 2022. Overall, Max had about 35 000 admitted patients in two years since the onset of the pandemic in March 2020. The highest number of patients at a given time during the Delta wave was 2000 across all the Max hospitals. The reverse transcriptase-polymerase chain reaction (RT-PCR) positivity rate in Max-run diagnostic laboratories was 40%



and 42% during the first and second waves, respectively. Admissions to the intensive care unit (ICU) during the first two waves were around 35%. During the Delta wave, almost 75% of the admitted patients required oxygen.

### **MAX ESTABLISHED ONE OF THE LARGEST VACCINATION CENTRES IN DELHI WITH THE CAPACITY TO HANDLE 10 000 VACCINATIONS A DAY.**

The hospital chain addressed COVID-19 disease by reorienting itself in three aspects – infrastructure and technology, people and process – across the Group's hospitals. The major infrastructure changes and technology adaptations implemented included the creation of isolation wards and isolation ICUs for patients with COVID-19, the erection of additional oxygen plants and concentrators, use of portable cabins to develop additional isolation wards, development of a jumbo centre for vaccination and facilitating virtual OPD consultations. Converting existing wards and ICUs into isolation facilities required structural and engineering changes such as separate air-conditioning ducts. One of the Max hospitals in New Delhi was designated as a fully dedicated COVID-19 facility.

As soon as vaccines became available, the hospital chain participated in the government-initiated vaccination plan. Up to January 2022, it had carried out nearly 2 million vaccinations. Of these, about half were administered off-site to corporate employees and their families in different cities. Max established one of the largest vaccination centres in Delhi with the capacity to handle 10 000 vaccinations in a day.

To avoid overwhelming the facilities and make use of hospital beds for the needy, virtual OPD consultations were initiated with an online appointment and video consultation solution developed by in-house teams. It was also linked with the delivery of medication to patients at home and the collection of samples for RT-PCR if needed. The homecare division handled thousands of patients and

it helped free up 35 000 “hospital bed-days”. The exercise was protocol-driven and had a 24X7 helpline service. The diagnostic laboratories of Max conducted 700 000 RT-PCR tests in two years.

A training programme was launched because a majority of the staff had never handled cases of any infectious disease and that too on such a scale when the pandemic occurred. The hospital trained 17 000 people across the entire spectrum of staff before they were put on COVID-19 duty. In-house accommodation and food were provided to staff members who preferred not to go home to minimize the risk to their family members. Their mental health was taken care of through counselling, besides providing free treatment for health-care workers who got infected.

A detailed standard operating procedure (SOP) for COVID-19 management was developed, and it was periodically revised based on guidance issued by the Ministry of Health and Indian Council of Medical Research from time to time. In addition, the hospital group published guidelines for paediatric COVID-19 and a patient information booklet. All the knowledge products were made available in the public domain. Several other hospitals adopted the SOPs developed by Max. The digital media teams created patient information modules, and these were widely disseminated among the general public. These digital campaigns garnered millions of views on different social media platforms.

On the research side, the Group's hospitals participated in several clinical trials with national and international partners. About 140 research papers on COVID-19 were published in indexed medical journals between April 2020 and December 2021. One of the studies was the longest-duration study (12 months) on “long COVID-19”. It found that 30% of the patients showed some symptoms of COVID-19 for a long period, and this had no relation with the initial severity of the disease. A more serious form of long COVID was seen among those with critical diseases to begin with. Overall, the Max experience demonstrated the critical role a privately run hospital chain played in India's war against COVID-19.



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# DIALOGUE 11





WHO DIALOGUE 11

# ESTABLISHING PRODUCT DEVELOPMENT PARTNERSHIPS (PDPs) FOR TB VACCINES

20 DECEMBER 2022

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## ABOUT THE SPEAKER

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**Dr Nick Drager** is the Executive Director, The Tuberculosis Vaccine Initiative (TBVI). He is the former Director of the Department of Ethics, Equity, Trade and Human Rights and Senior Adviser, Strategy Unit, Office of the Director-General at WHO. He is also an Honorary Professor, Global Health Policy, London School of Hygiene & Tropical Medicine and a Professor of Practice, Public Policy and Global Health Diplomacy at McGill University. Dr Drager has vast experience in global health diplomacy and high-level negotiations on international health security and development issues. He has an MD from McGill University and a PhD in Economics from Hautes Etudes Internationales, University of Geneva.

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## ABOUT THE DIALOGUE

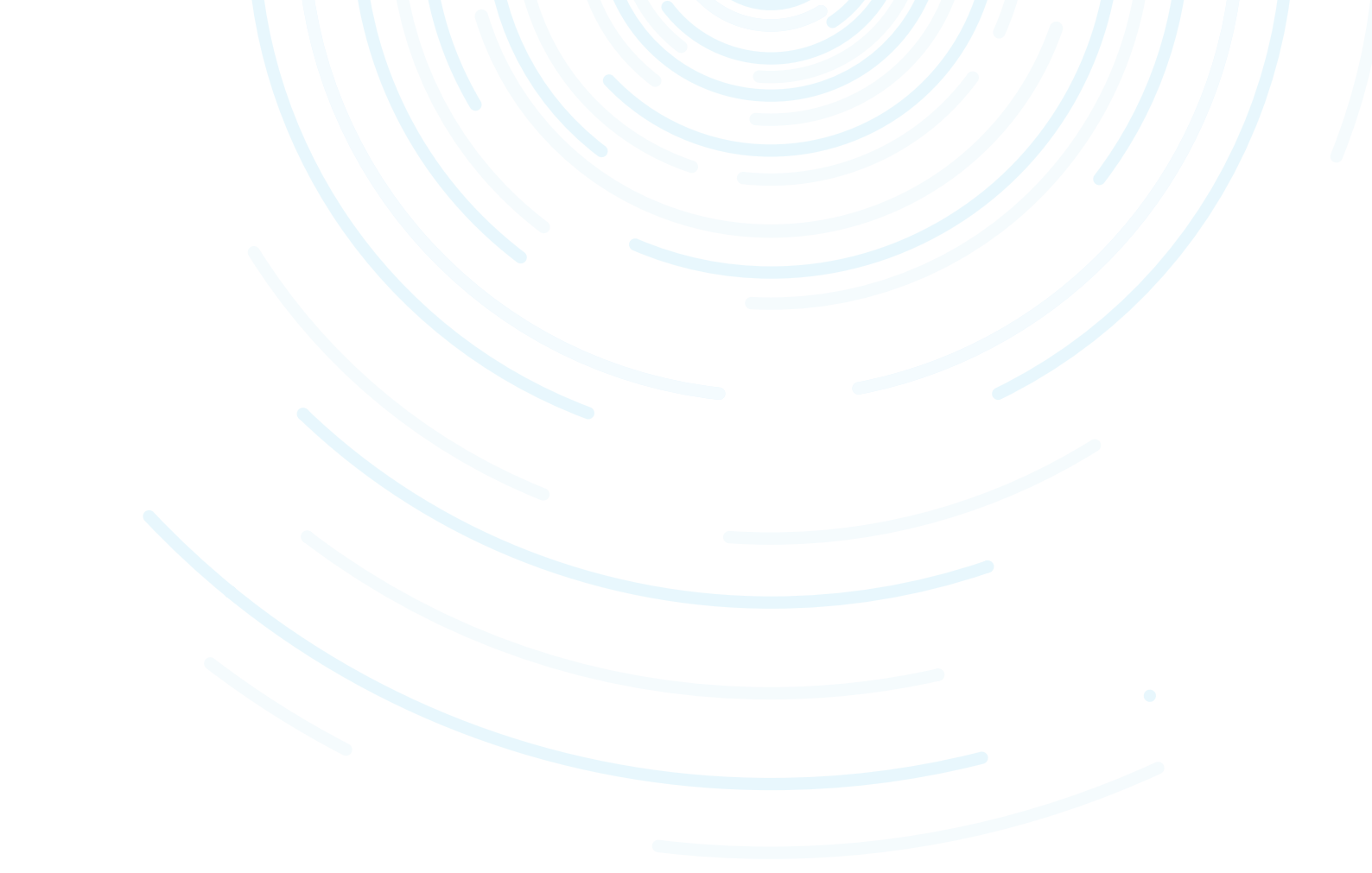
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The dialogue took place on 20 December 2022, and the session was moderated by Dr Suman Rijal, Director, Communicable Diseases. The session was attended by 38 participants.









## ESTABLISHING PRODUCT DEVELOPMENT PARTNERSHIPS (PDPs) FOR TB VACCINES

The world needs a set of new TB vaccines, in light of the challenges posed by antimicrobial resistance (AMR) and the need to reach the WHO target of ending the TB epidemic. For this, multiple and diversified vaccine strategies are needed, in line with the “preferred product characteristics” outlined by WHO. The requirements as defined by WHO are – an improved BCG vaccine for infants; a booster vaccine for adolescents and adults; a therapeutic vaccine for adults with active TB for administration along with drug therapy.

**THE CHALLENGE IS TO ACCELERATE THE VACCINE PRODUCTS THAT ARE IN THE LATE STAGES OF**

### **DEVELOPMENT, LEARNING FROM THE EXPERIENCE OF COVID-19 VACCINES.**

In recent years, a lot of progress has been made and we have a robust TB vaccine pipeline that includes very promising products in Phase 3. There is hope for a new vaccine by 2030, while some people think the timeline could be accelerated to 2025 or so. The challenge is to accelerate the products that are in the late stages of development, learning from the experience of COVID-19 vaccines. At the same time, efforts are being directed at putting diversified and innovative second- and third-generation vaccine candidate products at the beginning of the pipeline.



All this has been articulated in the TB Vaccine research and development (R&D) Map prepared by the TB Vaccine Initiative (TBVI) and its consortium partners (European and Developing Countries Clinical Trials Partnership and Amsterdam Institute for Global Health and Development). Key enablers of the process will be funding, open science and partner engagement. Separately, WHO is working on a roadmap for the products in the late stage. TBVI strategies are aligned with the global TB vaccine roadmaps. At present, TB vaccine development is underfunded compared to HIV and COVID-19 vaccines. A major challenge would be to mobilize additional funding for new TB vaccines.

### **THE SE ASIA REGION PERHAPS NEEDS SEVERAL PRODUCT DEVELOPMENT PARTNERSHIPS (PDPs) – ONE EACH FOR DIFFERENT SEGMENTS OF THE PROCESS, SUCH AS EARLY DEVELOPMENT AND PRECLINICAL WORK, CLINICAL TRIALS AND DOWNSTREAM ACTIVITIES.**

As a non-profit PDP that works through the Global TB Vaccine Partnership, TBVI is working to create an enabling environment to develop safe, effective and innovative vaccines. It is a group of 50 leading vaccine researchers and developers from academia, research institutes, small- and medium-sized enterprises (SMEs) and industry based in Europe. The three strategic themes of TBVI are diversifying the vaccine pipeline, accelerating clinical development and sharing the public health impact. TBVI acts as a neutral and honest broker and does not own any intellectual property (IP). It stays clear of any conflict of interest among its R&D partners, global stakeholders and funders. The PDP's work is divided into product development support and collaborative research.

The TBVI experience shows that the model has been successful. Nearly 75% of the current global TB vaccine portfolio either originates in Europe or is being developed in partnership with European public or private organizations. TBVI spearheads the European Union (EU)-funded vaccine development programmes and

accounts for half of the products currently in the global pipeline. Of 21 candidate vaccines in preclinical and clinical development, 14 have benefited from collaborative research inputs from TBVI.

TBVI presents a potential model to explore similar PDPs in other regions, including the South-East Asia Region. Ideally, the Region, with capacity in vaccine development and manufacturing, should have a home-grown PDP rather than have TBVI open a regional or country office. Developing a PDP in the Region would require a combination of health entrepreneurship and diplomacy because there are several stakeholders. The Region can also explore entrepreneurship and a private investor model, given the growing interest in start-ups and incubation.

### **RAISING THE NECESSARY FINANCIAL RESOURCES IS A MAJOR ISSUE THAT NEEDS TO BE RESOLVED. IT REQUIRES MAKING AN INVESTMENT CASE AND PRESENTING “PROOF OF CONCEPT” TO POTENTIAL FUNDERS IN THE REGION.**

While there are many good vaccines in the pipeline such as recombinant BCG vaccine and countries like India have well-developed vaccine manufacturing capacities, the question is about the timeline. Is it happening fast enough? Is the approach innovative enough? Can we accelerate the process? We are still talking about a new vaccine by 2030. A regional PDP will have to address all these issues. Perhaps the Region needs several PDPs – one each for different segments of the process such as early development and preclinical work, clinical trials and downstream activities.

Accessibility of vaccines will be a key challenge that a PDP will have to address. Unlike Europe where we do not have control over pricing, a PDP in the Region should have more clout to make sure that products are priced right and become accessible. Raising the necessary financial resources is another major issue that needs to be resolved. It requires making an investment case and presenting “proof of concept” to potential funders in the Region.



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## DIALOGUE 12





WHO DIALOGUE 12

# BEST PRACTICES IN NEPAL: COVID-19 VACCINE ROLL-OUT

19 OCTOBER 2021

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## ABOUT THE SPEAKER

Professor **(Dr) RP Biccha** is a Professor of Paediatrics with considerable experience in academic, health systems, leadership and governance roles, and has been engaged in providing strategic directions to health systems reform and health-care delivery in Nepal. He has provided strategic leadership to several health programmes and policies, including the National Health Policy, the Immunization Act, and the comprehensive multiyear plan for immunization. He was the Director-General of the Department of Health Services, Ministry of Health and Population, Government of Nepal, when he delivered the talk.

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## ABOUT THE DIALOGUE

The Dialogue was held on 19 October 2021. Dr Suman Rijal, Director of Communicable Diseases, chaired the session. It was attended by 68 participants from the South-East Asia Region.







## BEST PRACTICES IN NEPAL: COVID-19 VACCINE ROLL-OUT

The SE Asia Region addressed the challenges posed by the COVID-19 pandemic using all available biomedical and non-biomedical means. Vaccines proved to be important tools in the fight against the pandemic as they have been effective against different variants of concern and could prevent severe disease as well as hospitalization. By October 2021, over 1 billion doses of vaccines had been administered in the Region. To be effective and efficient and to make the best use of limited resources, it is always important to learn best practices from each other and replicate them.

**NEPAL COULD SUCCESSFULLY  
IMPLEMENT THE COVID-19  
IMMUNIZATION PROGRAMME DUE TO  
ITS EXPERIENCE OF RUNNING A HIGHLY**

**SUCCESSFUL NATIONAL IMMUNIZATION  
PROGRAMME (NIP) DESPITE THE  
CHALLENGES POSED BY THE DIFFICULT  
TERRAIN OF THE COUNTRY.**

Nepal could successfully implement the COVID-19 immunization programme due to its experience of running a highly successful National Immunization Programme (NIP) despite the challenges posed by the difficult terrain of the country. Over the years, NIP has been scaled up to all 77 districts covering 600 000 newborns every year. In all, 13 life-saving antigens are being administered to children below 2 years of age. A unique feature of Nepal is the Immunization Act passed in 2016, which ensures vaccination rights to all children, besides mandating the formation of technical committees such as



that for adverse events following immunization (AEFI). It also provides a legal framework for ownership and accountability. Nepal is the first country in South Asia to implement such a legislation to guarantee free childhood vaccines as a matter of right. Of 77 districts, 61 have been declared fully immunized. Scientific guidelines have been developed for the assessment and qualification of fully vaccinated districts. District and municipal authorities work hard to sustain the vaccination status.

During the first lockdown, there was a decline in routine immunization. On seeing this trend, a directive from the Ministry of Health was issued to prioritize immunization services during the pandemic. Slowly, there was a change and the coverage reached almost pre-pandemic levels. All pandemic-related public health measures were implemented during the vaccination campaigns. NIP was not only sustained during most of the pandemic period but also achieved some new milestones. Measles and rubella campaigns were conducted during the pandemic period, and four districts were declared fully vaccinated. A new vaccine – rotavirus – was added to the vaccination schedule nationwide in July 2020.

### **THE IMMUNIZATION ACT, 2016 AND THE EXPERIENCE OF NEPAL IN ENSURING CONTINUITY OF ROUTINE IMMUNIZATION DURING THE PANDEMIC HELPED IT TO RUN A SUCCESSFUL VACCINATION DRIVE, WHICH HOLDS LESSONS FOR OTHER COUNTRIES IN THE REGION.**

The COVID-19 vaccination programme started with health and frontline workers, followed by the elderly population. In November 2020, a plan was prepared to vaccinate at least 72% of the total population. Later, this target was revised to 76.8% with the coverage being extended to children above 12 years of age. For the vaccination programme launched in January 2021, Nepal received 1 million doses of Covishield vaccine from India. Thereafter, the supplies dipped and improved only after July 2021. Different types of vaccines were procured from multiple sources.

The COVID-19 vaccination drive benefited from the existence of a matured childhood

immunization programme. The existing immunization committees – with members that included all stakeholders – ensured enhanced coordination and monitoring at all levels. Public confidence in childhood immunization resulted in a high acceptance of COVID-19 vaccines also.

One of the key strengths of the COVID-19 vaccination programme was the political commitment at all levels – federal, provincial and local. All key decisions such as dose spacing, vaccination of lactating mothers, high-risk pregnant mothers and others were taken in time and based on expert advice and on recommendations of the Strategic Advisory Group of Experts (SAGE) of WHO. Another major driver of success was a very high acceptance rate of COVID-19 vaccination as with routine immunization. There was no hesitation because of the involvement of community leaders, religious leaders and other stakeholders right from the beginning. The high level of trust in the government-run routine immunization also helped. The vaccines were administered free of cost.

Nepal made special efforts to ensure access and equity. Refugees and migrants were vaccinated on priority after health and frontline workers. Vaccination was ensured in old age homes and prisons as well as to persons with disability. Ten hilly districts in the Himalayas were fully vaccinated on priority before the onset of winter. Those with high comorbidities and disabilities were visited in their homes and administered vaccines.

### **NEPAL MADE SPECIAL EFFORTS TO ENSURE ACCESS AND EQUITY. REFUGEES AND MIGRANTS WERE VACCINATED ON PRIORITY AFTER HEALTH AND FRONTLINE WORKERS.**

However, since multiple vaccines were included in the programme depending on availability, it posed challenges to the training of doctors and health workers. The target population had to be revised many times to adjust for the availability of vaccine supplies. This resulted in high operational costs, communication challenges and the need for multiple phases of vaccination drives. Some vaccines had large cold storage requirements, adding to logistic and implementation problems. Health workers had to brave hostile weather conditions such as flooding, landslides and heavy rains.



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# DIALOGUE 13





WHO DIALOGUE 13

# ROLE OF TASK SHARING AND ALLIED OPHTHALMIC PERSONNEL IN TACKLING NEEDLESS VISION IMPAIRMENT

7 SEPTEMBER 2023

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## ABOUT THE SPEAKER

**Dr Prashant Garg** is the Executive Chairman of LV Prasad Eye Institute, Hyderabad (India). He is also the Paul Dubord Chair of Cornea, and network director of eye banks of the institute. He has published about 200 research papers covering epidemiology, clinical features of rare infections, antibiotic resistance in ocular isolates and drug delivery systems. Dr Garg serves on the boards of the International Joint Commission for Allied Health Personnel in Ophthalmology, Eye and Contact Lens Association and the ICO Subcommittee on Allied Health Education. He is a member of the advisory board of the WHO Committee on tissue banking. He has received several awards including the Senior Achievement Award of the American Academy of Ophthalmology.

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## ABOUT THE DIALOGUE

The Dialogue was conducted on 7 September 2023. Over 70 participants from SEARO and country offices were present in hybrid mode. The session was chaired by the Dr Cherian Verghese, Ag. Director, Department of Healthier Populations.









## ROLE OF TASK SHARING AND ALLIED OPHTHALMIC PERSONNEL IN TACKLING NEEDLESS VISION IMPAIRMENT

WHO, at the beginning of this century, redefined good health by emphasizing the concept of 'fairness' along with 'goodness'. Glaring differences in health accessibility among individuals and different groups leads to several direct and indirect impacts on individuals, families, communities and countries. These gaps and inequities in health both within and between countries, as paper published in *The Lancet* at the turn of the century pointed out, reflect of our collective failure to share the dramatic health advances with all.

**UNADDRESSED REFRACTIVE ERRORS ARE ONE OF THE MOST IMPORTANT CAUSES OF VISION IMPAIRMENT. DEPENDING ONLY ON OPHTHALMOLOGISTS AND OPTOMETRISTS IS NOT ENOUGH TO ADDRESS THIS SITUATION.**



Health systems worldwide are struggling to keep up because they have become more complex and costly, and are placing additional demands on the health workforce. Making health available, accessible, and affordable would require investments not just in new technologies and infrastructure but also in the health workforce. Many countries in the SE Asia Region have very low per capita spending on health. The proportion of trained health workforce per 1000 population is very low in the SE Asia Region – 4.3 compared with 18.9 in Europe and 24.8 in the Americas. Moreover, the available workforce is concentrated in urban areas.

The situation is worse in the case of eye health services in the Region where nearly 30% of the world's blind and vision-impaired individuals reside. Merely adding trained ophthalmologists and optometrists is not sufficient. In a situation in which unaddressed refractive errors are one of the most important causes of vision impairment, depending only on ophthalmologists and optometrists is not enough. The solution lies in team approach and task shifting. Task shifting is the rational redistribution of tasks where appropriate from highly qualified health workers to health workers with shorter training and fewer qualifications. The goal was to create a health force that could 'get the right workers with the right skills in the right place doing the right thing.' It has been done for care delivery for HIV and diabetes, and is feasible for eye care.

**WHILE THERE IS A NEED TO RECOGNIZE TASK SHIFTING AS A LEGITIMATE ACTIVITY NECESSARY TO ATTAIN ACCESSIBILITY AND AFFORDABILITY OF CARE, ALL NECESSARY STEPS SHOULD BE TAKEN TO SAFETY OF PATIENTS.**

The Andhra Pradesh Eye Diseases Study, conducted by LVPEI in 1997, showed that uncorrected refractive error accounted for 45 percent of the causes of visual impairment and 39 percent of cataracts. In response to this knowledge and the shortage of trained professionals, the institute evolved the eye health pyramid model. At the bottom of the pyramid are Vision Health Guardians based in a community. They are trained in primary eye care and their main task is to create awareness, conduct school and community screenings and distribute spectacles. The next tier comprises the Vision Centre network, which is a primary care service delivery unit. Each centre is managed by a Vision Technician trained in optometry and identifying cases for referral. Vision Centres are linked to the service Centre which is a secondary level eye care unit managed by 20 to 25 eye care personnel and capable of providing comprehensive services including cataract surgery. All the levels are interconnected, with the Village Vision Complex at the top. It represents an integrated model of primary and secondary care service delivery.

The task-shifting model of LVPEI is working in three Indian states – Telangana, Andhra Pradesh and Orissa – and studies have shown that it is effective in addressing preventable blindness. Task shifting has been experimented with eye banking as well and a model is being developed for diabetes. However, many challenges need to be addressed before scaling it up for health care, in general. The cadre of allied ophthalmic personnel is not recognized by the government and regulatory bodies. There is a lack of institutional support, curriculum and teaching material as well as job opportunities and a career path because of 'professional protectionism.' While there is a need to recognise task shifting as a legitimate activity necessary to attain accessibility and affordability of care, all necessary steps should be taken to safety of patients.



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## DIALOGUE 14





WHO DIALOGUE 14

# EPILEPSY CARE MODEL FOR A RESOURCE-CONSTRAINT SETTING

14 JUNE 2022

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## ABOUT THE SPEAKER

**Dr Nirmal Surya** is the Founder Trustee and Chairman of the Epilepsy Foundation India – a not-for-profit organization working for the cause of epileptic patients in India. He is the Honorary Associate Professor in Neurology at Bombay Hospital & Research Centre and Honorary Neurophysician at Saifee Hospital, Mumbai. He is the President-Elect of the Asian Oceanian Society of Neurorehabilitation and a recipient of the Kenneth M Viste Jr, MD Patient Advocacy Award of the American Academy of Neurology for 2022.

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## ABOUT THE DIALOGUE

The talk was delivered on 14 June 2022, and the session was chaired by Dr Razia Pendse, Director of the Department of Healthier Populations and Noncommunicable Diseases at the WHO Regional Office. It was attended by 42 participants virtually.









## EPILEPSY CARE MODEL FOR A RESOURCE-CONSTRAINT SETTING

The Seventy-fifth session of the World Health Assembly in May 2022 approved the Global Action Plan on Epilepsy and Neurological Disorders. Disorders of the nervous system are one of the leading causes of disability-adjusted life years (DALYs) and a leading cause of death worldwide. Epilepsy accounts for 4.9% of neurological DALYs. Over 50 million people in the world live with epilepsy and 80% of them are in low- and middle-income countries (LMICs). Most of those suffering from epilepsy are from low socioeconomic backgrounds and are vulnerable and underprivileged. They face social stigma and discrimination. Therefore, the world needs a service delivery model and care pathway that reaches the farthest first and leaves no one behind.

**EPILEPSY IS A TREATABLE DISEASE EVEN WITH A SINGLE DRUG IN 70% OF PATIENTS. THE MODEL HAS DEMONSTRATED THAT IT IS CRITICAL TO SPREAD AWARENESS ABOUT EPILEPSY BEING A TREATABLE DISEASE.**

The Epilepsy Foundation has been working with India's National Health Mission in a public-private partnership (PPP) mode in Maharashtra state. The two entities organize epilepsy detection and management camps in rural areas to detect cases and provide medication as well as counselling to epilepsy patients. In



the past 11 years, over 33 000 patients have been examined in 95 camps across the state. The State Government has included the full bouquet of epilepsy drugs to prevent seizures in all government schemes. Epilepsy surgery has been included in all government health programmes for those who need it. The overall treatment gap has come down from 75% to 28%.

### **COMMUNITY ENGAGEMENT AND EMPOWERMENT ARE EQUALLY CRITICAL SINCE EPILEPSY IS A MEDICAL CONDITION WITH SO MUCH STIGMA, DISCRIMINATION, MYTHS AND MISCONCEPTIONS.**

The effort started with the sensitization of general practitioners, paediatricians and clinicians about epilepsy. School health officers were also trained to identify children with symptoms of epilepsy in rural schools. In the community, awareness campaigns are taken up using conventional and modern media such as pamphlets, videos, banners and street plays.

In the camps, medications are given for three months, and specialists (rehabilitation specialists, occupational therapists, clinical psychologists, and speech therapists) address associated problems in children such as attention deficit hyperactivity disorder (ADHD), learning disabilities and dyslexia. An electroencephalogram (EEG) is conducted using portable machines. The test is free of cost for patients and, as a large number of patients needs to be examined, the Foundation has devised a 7-minute EEG, and data collected over the years have shown that the positivity rate is comparable with results from the conventional 30-minute EEG. Patients are given a seizure card to record seizure episodes. An online epilepsy management system that records all the patient data has been developed. For the follow up of patients who come to the camps, multiple methods have been devised and incorporated into the model. Telemedicine has been used extensively since 2013 using the telemedicine infrastructure available in district hospitals. Follow-up camps are organized where neurologists

examine all the patients under treatment. A mobile app has been developed for follow up and disease management, which empowers both patients and caregivers. Regular follow up is done through a telephone helpline service where trained nurses call up patients and also answer queries of those dialling in. All this has helped in medication adherence and a drop in seizure episodes.

For long-term follow up and sustainability of the model, we proposed the setting up of regional epilepsy centres (RECs). Eight such centres have been approved. They will be equipped with EEG and will have a medical officer, nurse, technician and data operator, with a neurologist visiting once every week. The centres will also dispense antiepileptic drugs. To involve the primary care system in the task, we are training accredited social health activists (ASHAs) to identify epilepsy patients, need for emergency treatment and referral to a camp or district hospital.

Epilepsy is a treatable disease even with a single drug in 70% of patients. The model has demonstrated that it is critical to spread awareness about epilepsy being a treatable disease. The availability of antiepileptic drugs is crucial for long-term management. Neurodisability with epilepsy needs attention and management by multidisciplinary teams. Tele-rehabilitation and family-based rehabilitation can be used as follow up. Periodic follow up is necessary to reduce the treatment gap. Community engagement and empowerment are equally critical since epilepsy is a medical condition with so much stigma, discrimination, myths and misconceptions.

The experience in Maharashtra shows that the patient-centric model can be replicated in any resource-limited setting. It ensures access to care through an outreach-based approach, engagement of communities, multi-stakeholder participation, continuity of care and adherence to medication, improved compliance, and adequate care of disabilities in children. It is a comprehensive care model – not just a biomedical approach but a biopsychosocial approach. By reaching people where they are, and ensuring free care and supply of medicines through the public system, the model fulfils all the essential attributes of universal health coverage (UHC).



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## DIALOGUE 15





WHO DIALOGUE 15

# OPERATIONAL RESEARCH IN GLOBAL HEALTH: WHAT, WHY AND HOW?

8 AUGUST 2022

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## ABOUT THE SPEAKER

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Professor **Anthony Harries** is a Senior Advisor at the International Union against Tuberculosis and Lung Disease and an honorary Professor at the London School of Hygiene and Tropical Medicine. He has published over 740 scientific reviews and viewpoint papers, contributed to 30 chapters for books and has authored and co-authored 23 books, monographs and guidelines. Professor Harries has been conducting operational research in low- and middle-income countries for over 30 years, mainly in the field of TB and HIV/AIDS, in close collaboration with WHO. He was responsible for the initiation and development of the Structured Operational Research and Training Initiative (SORT-IT) Programme in 2009 and was awarded the George MacDonald Medal by the Royal Society of Tropical Medicine and London School of Hygiene for operational research in 2002.

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## ABOUT THE DIALOGUE

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The Dialogue was held on 8 August 2022, and the session was chaired by Dr Bhupinder Kaur Aulakh, Executive Officer to the Regional Director, Dr Poonam Khetrpal Singh, and moderated by Dr Siswanto S., who was then Senior Adviser, Research and Innovation. The session was attended by 66 participants.











## OPERATIONAL RESEARCH IN GLOBAL HEALTH: WHAT, WHY AND HOW?

Knowledge and evidence are essential for strengthening the working of health systems. In addition to routine data generated from national health information systems, operational research can help in arriving at best-buys of interventions, adequate distribution of qualified health personnel as well as ensuring access and equity in healthcare services.

**FOR CAPACITY-BUILDING, IT IS ESSENTIAL TO HAVE COMPETENT AND SKILLED RESEARCH OFFICE EMBEDDED IN AND ANSWERABLE TO NATIONAL PROGRAMMES OR THE MINISTRY OF HEALTH. THE SORT-IT (STRUCTURED OPERATIONAL RESEARCH AND TRAINING**

**INITIATIVE) COURSE STARTED IN 2009 BY THE UNION IN COLLABORATION WITH MSF HAS BEEN BUILDING CAPACITY FOR CONDUCTING OPERATIONAL RESEARCH.**

Operational research can be defined as “research into interventions, strategies, tools or knowledge that can enhance the quality or coverage of disease control programmes, health services or health systems”. There are some guiding principles of programmatic operational research – a clear statement of objectives, identification of challenges or constraints to meeting those objectives, asking research questions around those challenges, and then implementing the research plan.



The operational research methodology is simple with study designs being descriptive or cross-sectional, cohort, case-control, “before and after” or longitudinal assessments. Whatever the study design, research should be conducted within the routine setting and the ethics framework of STROBE (Strengthening the Reporting of Observational Studies in Epidemiology). Operational research studies are usually conducted to improve outcomes, and assess the feasibility of new strategies or interventions in specific settings or specific population groups and the evidence is used to advocate for changing policies and practices.

**TO BE ABLE TO MAKE AN IMPACT IN TERMS OF CHANGES IN POLICY AND PRACTICE AS WELL AS IMPROVED HEALTH OUTCOMES, OPERATIONS RESEARCH MUST BE RELEVANT TO THE PROGRAMME OR THE COUNTRY.**

The operational research studies to assess the feasibility of using HIV testing and co-trimoxazole preventive therapy (CPT) to reduce TB mortality under routine programmatic settings in Malawi are a good example. A randomized controlled trial in West Africa had shown that CPT significantly reduced mortality in HIV-positive TB patients. But the Malawi government was reluctant to institute a new policy based on this evidence. So, a study was done in two districts in Malawi. It found that the package of HIV testing and CPT given to TB patients was associated with a significant reduction in overall case fatality.

Based on this evidence, the Ministry of Health in 2002 adopted a policy to roll out the intervention countrywide among TB patients. It took some time to implement the policy but, in the end, it had a great impact on service delivery. HIV testing countrywide was gradually scaled up from 26% in 2004 to over 90% in 2012. CPT was efficiently administered to HIV-positive persons and from 2005 onwards, antiretroviral therapy (ART) came on the scene. The overall impact on outcomes was huge.

There are six broad enabling factors for conducting operational research within a national disease control programme. First, operational research should be included in the Ministry of Health or disease control programme plans. This requires political

commitment and necessary funding. Along with developing a costed budget line for operational research, it is vital to have a good rapport with the national health system, research ethics committees and others. Second, one needs good partnerships and a structure for research planning and oversight. For instance, the new policy on diabetes screening of TB patients in India in 2012 was based on consultation among all stakeholders, including international partners, followed by operations research data from 10 000 TB patients who were screened for diabetes. Third, key areas for operational research should be identified through stakeholder meetings with national staff and partners. Fourth, research capacity needs to be built and strengthened. Fifth, resources should be provided, such as a budget for open access publication, investing in skills-building for research officers and supporting them to attend national and international conferences. Finally, a monitoring and evaluation framework needs to be developed to evaluate the completed studies.

For capacity-building, it is essential to have competent and skilled research office embedded in and answerable to national programmes or the Ministry of Health. The SORT-IT course started in 2009 by The Union in collaboration with Médecins Sans Frontières (MSF) has been building capacity for conducting operational research. In the past 12 years, nearly 1000 participants from about 100 countries have been trained with this course. A culture of research develops when there is a critical mass of trained people.

To be able to make an impact in terms of changes in policy and practice as well as improved health outcomes, operations research must be relevant to the programme or the country. Decision-makers must be informed and engaged from the start, and they should be included in the publications as co-authors. The findings should be disseminated among key stakeholders, and widely shared with the general public through simple language handouts for the media. Well-conducted operational research examines the nuts and bolts of programme activities, identifies the problems and seeks to find solutions and, thereby creates a well-oiled machine that can deliver high-quality services. To address barriers like sustained funding, WHO should advocate for operational research to convince governments to support it.



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# DIALOGUE 16





WHO DIALOGUE 16

# MAINSTREAMING PUBLIC HEALTH EDUCATION IN INDIA

13 SEPTEMBER 2023

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## ABOUT THE SPEAKER

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Professor **Sanjay Zodpey** is the President of the Public Health Foundation of India. Earlier, he led the Indian Institute of Public Health, Delhi as its Founding Director, and as Director of the Indian Institutes of Public Health at Gandhinagar and Bhubaneswar. He is a trained public health professional with multidisciplinary qualifications and has authored over 425 publications. His research interests include global health, health systems research, health workforce development and education of health professionals. Prof. Zodpey received the Public Health Education Leadership Award for making significant contributions to promoting public health education in the South-East Asia Region.

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## ABOUT THE DIALOGUE

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The Dialogue was conducted on 13 September 2023. Over 70 participants from SEARO and country offices attended. The session was chaired by the Dr Thaksaphon Thamarangsi Coordinator, (Integrated Health Services) Department of UHC/Health Systems. The presentation by Dr Zodpey was followed by an interactive session with several questions.







## MAINSTREAMING PUBLIC HEALTH EDUCATION IN INDIA

Public health professionals constitute an important part of the health workforce in any country. Given the broad scope of public health that encompasses both medical and non-medical aspects, a diverse and multidisciplinary approach is needed to develop the public health workforce. Since public health is multi-disciplinary, it can be considered a 'discovered discipline' – one which is not a person's initial profession, but a choice embraced later in one's career.

In India, medical colleges have traditionally produced public health professionals. The number of public health professionals (PHPs) coming out of medical colleges is very low. India has only 11 PHPs

per 100,000 population, compared to 100 in Brazil. Going by the ASPH benchmark of 220 PHPs per 100,000 population, India would need about 2.8 million PHPs. The public health programmes being offered by institutions other than medical colleges, such as the Indian Institutes of Public Health, are augmenting the number of PHPs but still, there is a huge gap between demand and supply.

**GOOD INSTITUTIONS DO NOT  
JUST MEAN GOOD BUILDINGS BUT  
GOOD FACULTY. PUBLIC HEALTH  
SCHOOLS NEED MULTIDISCIPLINARY**



## **FACULTY AND FACULTY FROM DIVERSE BACKGROUNDS AND PhD. PROGRAMMES IN PUBLIC HEALTH.**

In the last two decades, the training framework of public health professionals has evolved in the country with recognition at the policy level that public health education should go beyond medical teaching. The Calcutta Declaration on Public Health, adopted in 1999, underscored the need to promote public health as a discipline and as an essential requirement for health development in the Region. Besides addressing the challenges posed by ill-health and promoting positive health, public health should also address issues related to poverty, equity, ethics, quality, social justice, environment, community development and globalization. The 12th Five Year Plan also recognised that public health education must be developed as 'a multidisciplinary, health system connected, problem solving professional course' and should be open to both physicians and non-physicians. In 2017, the National Health Policy proposed the creation of a public health management cadre. In 2022, the Ministry of Health and Family Welfare proposed a multidisciplinary public health management cadre (PHMC) to augment the capability of the public health system. The ministry has developed guidelines for the implementation of PHMC by states.

## **PUBLIC HEALTH NEEDS PASSION, BUT WE ALSO NEED TO PROMOTE PUBLIC HEALTH AS A PROFESSION WITH A CLEAR CAREER PATH.**

While PHMC has been proposed, public health education needs to be reformed to respond to emerging needs. Networks, collaborations, and partnerships have been identified as key drivers for advancing the agenda of reforms in public health education. This can help in designing and adapting competency-driven frameworks suitable for addressing public health challenges and in shifting the focus of the curriculum to a multidisciplinary public health outlook. We also need to develop accreditation and quality assurance mechanisms for both the programmes and institutions. It is also critical to create job opportunities and define career pathways for PHPs in both public and private sectors. Unlike the graduates from medicine or nursing streams, public health graduates find it difficult to be recruited and integrated into the mainstream public health systems. The curriculum needs to reflect the current and future needs, and innovative teaching methods should be adopted. The potential of e-learning and distance education should be exploited.

Overall, public health education in India needs both institutional and instructional reforms. PHFI has undertaken initiatives such as an e-course on career development in public health and a public health career website to promote education and career opportunities for public health. It also offers a wide range of on-campus and e-learning courses.



# DIALOGUE

17





WHO DIALOGUE 17

# IS THE WORLD READY FOR THE NEXT PANDEMIC?

23 FEBRUARY 2023

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## ABOUT THE SPEAKER

**Dr Richard J. Hatchett, MD**, is Chief Executive Officer of the Coalition for Epidemic Preparedness Innovations (CEPI) – a global partnership that supports the development of and equitable access to new vaccines and other defences against infectious diseases with epidemic and pandemic potential. CEPI's plan is for the world to neutralize those pandemic threats with prescient investment in scientific research and development (R&D). Earlier, he was Acting Director of the United States Biomedical Advanced Research and Development Authority (BARDA). He also served under two Presidents of the USA – George W. Bush and Barack Obama – as Director of Medical Preparedness Policy on the Homeland and National Security Councils. Dr Hatchett has a medical degree from Vanderbilt and completed clinical training in internal medicine and medical oncology at Cornell and Duke.

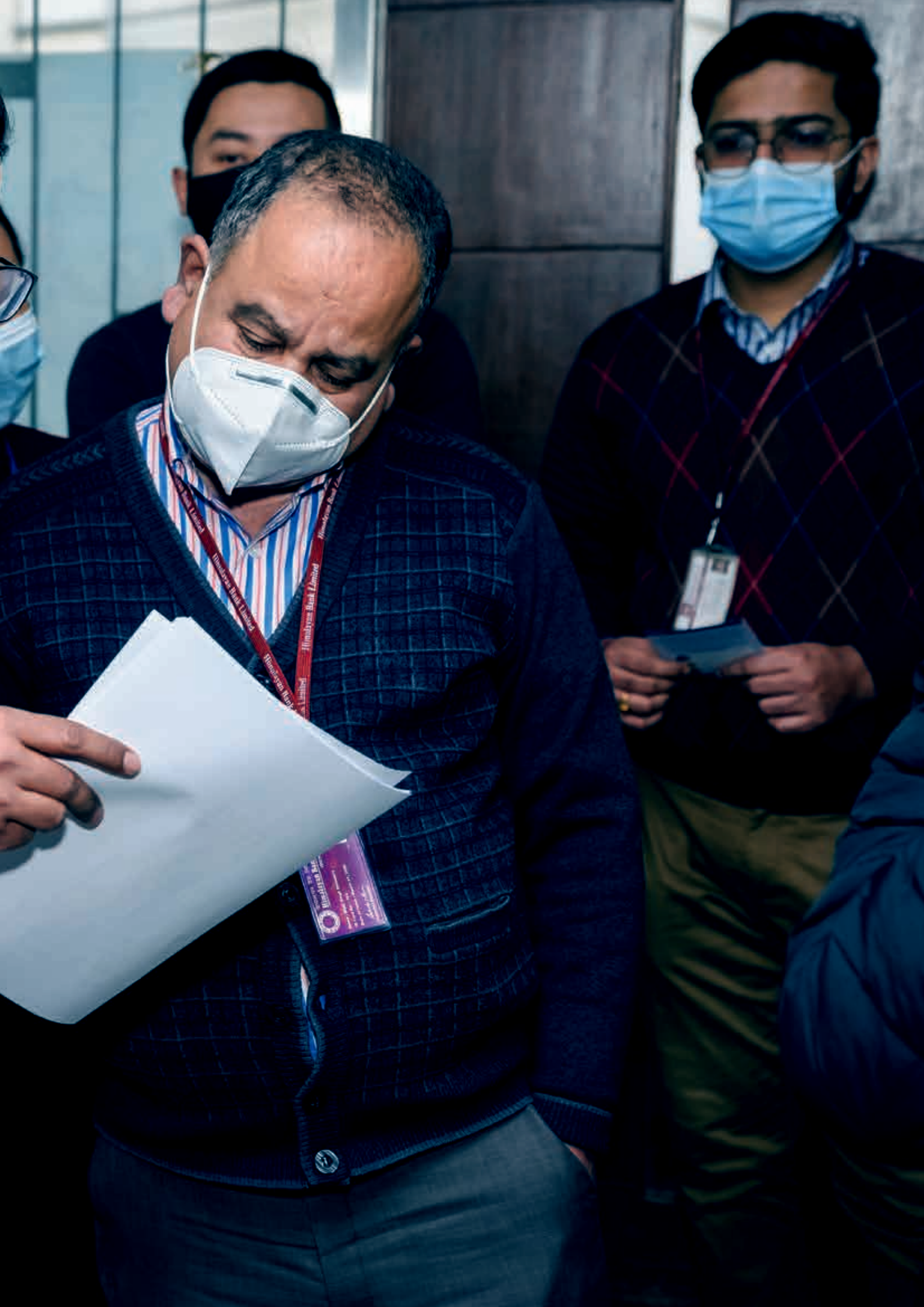
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## ABOUT THE DIALOGUE

The talk was delivered on 23 February 2023, and the session was chaired by Dr Pem Namgyal, Director of Programme and Management. About 100 technical staff attended the lecture.









## IS THE WORLD READY FOR THE NEXT PANDEMIC?

The COVID-19 pandemic galvanized governments, industry and regulators in an unprecedented manner, resulting in the development of a slew of COVID-19 vaccines. The time frame of vaccine development from R&D to roll-out came down drastically from a decade or so to less than a year. Close to 13 billion vaccine doses were administered globally within two calendar years after the emergence of the new pathogen. This was unparalleled in human history though there were disparities in vaccination rates in different parts of the world.

**WITH A CONCERTED EFFORT TO BUILD THE VIRAL VACCINE LIBRARY, WORK ON THE OPERATIONAL SIDE OF EXECUTING CLINICAL TRIALS, AND ADAPTATION OF REGULATORY POLICY TO ALLOW FOR RISK-ADJUSTED**

**DECISIONS, IT SHOULD BE POSSIBLE TO DEVELOP A SAFE AND EFFECTIVE VACCINE WITHIN 100 DAYS OF A NEW PATHOGEN GETTING SEQUENCED.**

CEPI wants to build on the momentum created by the COVID-19 vaccines and make another quantum leap so that the world is better prepared to respond more rapidly in future. The speed of the response was enabled by the prior work done on coronaviruses. CEPI made its first investment in developing a COVID-19 vaccine on 23 January 2020 – just 12 days after the first sequences became available. Moderna was funded for the production of clinical trial material for a COVID vaccine, based on the work it had done on the Middle East Respiratory Syndrome (MERS) virus and other pathogens using techniques for the manipulation of Type 1 surface protein antigens that enabled optimization of the pathogen to the



immune system. When the Vaccine Research Centre and Moderna received the sequences, they adapted an approach that they were confident would work and was likely to produce high rates of immunogenicity. They could design a vaccine that was shown to be 94% or 95% effective within 36 hours. Within 10 days, CEPI funded the production of clinical trial material.

This experience forms the template for an even quicker response to future pandemics. CEPI has worked out a systematic approach to vaccine preparedness for future pandemics based on the viral family proposal by Barney Graham of Vaccine Research Centre. He argued that while the viral taxonomy changes about every week, there are 25–30 viral families that are known to cause human disease. It is possible to study them closely, rank them into groupings based on risk (high, medium and low) and develop prototype vaccines. With this, we would be exactly in the position we were in with coronaviruses when SARS-CoV-2 emerged. We currently have vaccines against 15 such viral families. All we need to do is translate them into vaccines using rapid response technologies, in case any of them spreads to cause a new epidemic or pandemic.

**WE ANTICIPATE THAT REGIONAL HEALTH SECURITY ARRANGEMENTS, PARTICULARLY THOSE MEDIATED THROUGH THE REGIONAL OFFICES OF WHO OR ORGANIZATIONS LIKE THE EU, WOULD BE CRITICALLY IMPORTANT FOR FUTURE PREPAREDNESS.**

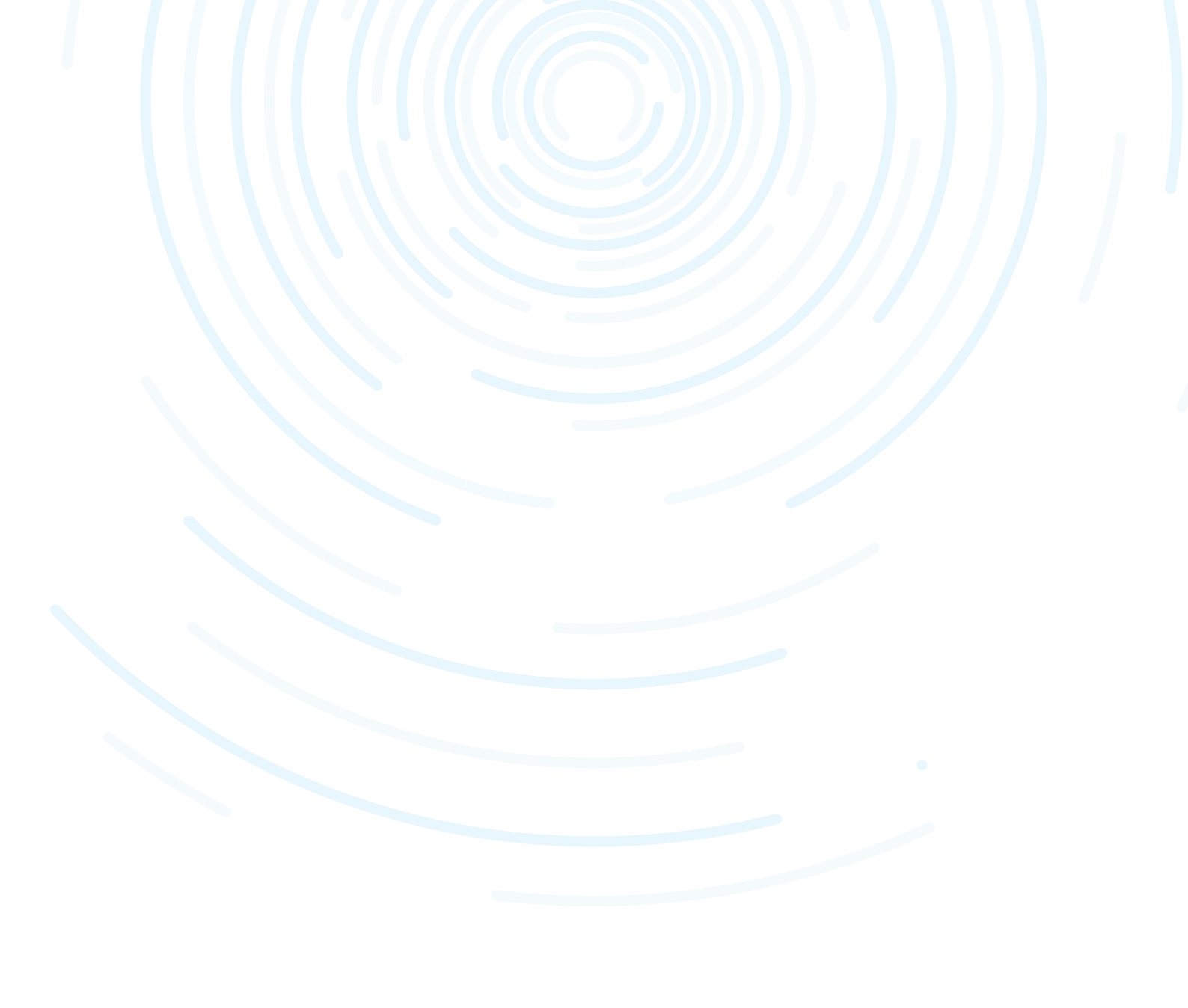
In the prototype pathogen approach, a vaccine is developed for the major attributes (transmissibility, lethality) in the given genetic space. If something new emerges from a particular viral family, scientists should be able to adapt very quickly and develop an appropriate vaccine.

The COVID-19 vaccine brought down a 10-year time frame for vaccine development to 326 days. CEPI has now prepared a 100-day mission for vaccine development. With a concerted effort to build the viral vaccine library, work on the operational side of executing clinical trials, and adaptation of regulatory policy to allow for risk-adjusted decisions, it should be possible to develop a safe and effective vaccine within 100 days of a new pathogen getting sequenced.

The 100-day time frame is based on the COVID-19 experience, which highlighted the importance of improving global surveillance, fostering and strengthening norms around information-sharing and evolving the understanding of using non-pharmaceutical interventions. If vaccines become available early on, a pathogen with pandemic potential could be controlled before it causes a pandemic. This could prevent economic and social disruption.

While the concept and technology for rapidly developing pandemic vaccines are ready, the challenge is to prepare regulators for this new approach. This can be done by appraising them about the vaccine libraries and the new technology platforms and equipping them with an understanding of different virus families and relevant safety, immunogenicity and biomarker information. This can help regulators make an informed decision to allow emergency authorization even while real-world efficacy and effectiveness data are being collected. This is the paradigm shift that is required. It would entail systematic front-loading of preparedness activities and breaking the firewall between development and intervention.

In addition to the technology and regulatory issues, the need is to build operational excellence in terms of preparing clinical trial networks and teams and ensuring the gathering of relevant safety and efficacy data after an emergency authorization. Learning from the pandemic experience, it is time to consider developing some kind of a global emergency authorization approach and regional harmonization of regulatory processes within different regions of WHO.



The rapid roll-out of COVID vaccines also raised concerns about their equitable distribution. An analysis conducted by CEPI of vaccine distribution and delivery during the COVID-19 pandemic has shown that inequities occurred because of system failure and not entirely because of vaccine nationalism. In the initial period, scarcity drove vaccine nationalism, which in turn led to inequitable distribution, but there were other factors like delivery challenges, cold chain problems, among others, which were responsible for inequity. To avoid a similar situation in future, we need to take steps towards systemic improvements. CEPI is working with procurement partners to offer affordable pricing

in low- and middle-income countries (LMICs) through negotiated cost transparency, tiered pricing and other conditions.

If CEPI and other R&D organizations move towards being able to potentially deliver vaccines in a 100-day time frame, all other stakeholders too will have to move at the same velocity to achieve the target. If we can develop a shared understanding of the mission of accelerated delivery of countermeasures in the context of an overall more effective epidemic and pandemic response, then we can dramatically reduce the risk of future pandemics.

Another new development was the emergence of regional efforts as a critical bridge between national efforts and global efforts. We anticipate that regional health security arrangements, particularly those mediated through the regional offices of WHO or organizations like the European Union (EU), would be critically important for future preparedness.

The experience of CEPI with viral epidemics is relevant to other diseases. While tuberculosis (TB) is not one of the diseases that CEPI is working on, there are interesting opportunities to link its current work with the efforts to address the TB burden. For instance, the widely distributed infrastructure for clinical trials could be used to test TB vaccines too. The

CEPI Board has approved the extension of its agenda to vaccine-adjuvant technologies such as monoclonal antibodies, potentially mRNA-delivered therapeutics, or mRNA-encoded antibodies. This will have implications for non-viral diseases. For instance, if there was a heat-stable mRNA platform that could be used to develop a dengue vaccine, CEPI would support it. The current work of CEPI is guided by the WHO priority pathogens list and not any commercial interest. As far as the issue of intellectual property is concerned, CEPI has remained agnostic and is willing to work with whatever approach works. For access to COVID-19 vaccines, intellectual property was not a major barrier to access.





# DIALOGUE

18



WHO DIALOGUE 18

# AIR POLLUTION AND HEALTH

24 FEBRUARY 2020

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## ABOUT THE SPEAKER

**Dr Randeep Guleria**, a globally acclaimed expert in pulmonary medicine, has worked at the All India Institute of Medical Sciences (AIIMS), New Delhi, in various capacities for over 25 years. He was a Professor of Pulmonary Medicine and Sleep Disorders and then served as Director of the Institute. He was the first Indian to get a Doctorate of Medicine (DM) in Pulmonary and Critical Care Medicine. Dr Guleria has published over 400 papers in international and national journals and written 49 chapters in technical and academic books. He has actively supported various environmental causes and has been an expert at various environmental forums on air pollution.

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## ABOUT THE DIALOGUE

The Dialogue was held on 24 February 2020. At that time, Dr Guleria was serving as Director of AIIMS, New Delhi. The session was chaired by the Regional Director, Dr Poonam Khetrpal Singh. It was a hybrid session where all WHO SE Asia Region country offices were connected online and about 45 professional staff participated in person.











## AIR POLLUTION AND HEALTH

Climate change and health are interconnected in many ways. Climate change impacts and can have profound effects on human health through various pathways. Climate change worsens air quality by influencing the formation and dispersion of pollutants, and exposure to air pollution has detrimental effects on respiratory health, exacerbating asthma, chronic obstructive pulmonary disease (COPD), and other respiratory conditions. Climate change is also impacting the distribution and transmission of infectious diseases, thereby leading to the spread and re-emergence of communicable diseases. Developing countries, which are home to a majority of the global population, are predominantly more affected by particulate matter (PM) 2.5 pollution.

**SCIENTISTS, PUBLIC HEALTH EXPERTS, POLICY-MAKERS AND SOCIETY NEED TO WORK TOGETHER TO FIND SUSTAINABLE, DOABLE AND LONG-TERM SOLUTIONS TO THE PROBLEM OF AIR POLLUTION.**

In India, the burden of disease has shifted from communicable diseases to noncommunicable diseases (NCDs) since 1990, and NCDs account for 60% of the total disease burden in India though there are regional variations. The five most common individual causes of disability-adjusted life years (DALYs) lost in 2016 were ischaemic heart disease, COPD, diarrhoeal



diseases, lower respiratory tract infections and cerebrovascular disease. The top risk factors are malnutrition, air pollution, dietary risks, high systolic blood pressure and high fasting plasma sugar. In 2017, 1.24 million deaths could be attributed to indoor and outdoor air pollution. Air pollution is now contributing more to DALYs than tobacco use. The use of solid fuels is contributing to indoor pollution in countries and regions that also have high outdoor pollution. In India, for instance, 700 million people used solid fuel in 2010. The population-weighted mean for both PM 2.5 and indoor air pollution in India was 89.9 mcg/m<sup>3</sup>. Poor air quality also affects animals, plants and the ecosystem.

**ALONG WITH SOCIETAL FACTORS, IT IS NECESSARY TO FOCUS ON MAKING PEOPLE AWARE OF HOW THEY CAN REDUCE THEIR EXPOSURE TO AMBIENT AIR POLLUTION AND REDUCE HEALTH RISKS AT THE INDIVIDUAL LEVEL.**

Several studies and meta-analyses clearly show a link between indoor pollution caused by biomass smoke and COPD risk in women and children. Biomass combustion leads to the release of several carcinogens and inhalation of these particles leads to “overloading of the lungs” and sustained inflammation. Such exposure over a long period then causes lung fibrosis and lung cancer. The size of the particulate matter is critical in the manifestation of the adverse impacts of air pollution. PM 2.5 reaches the lungs and cardiovascular system causing oxidative stress, and predisposing individuals to cardiac conditions and stroke. Exposure to air pollution during pregnancy can have adverse effects on both the mother and the developing fetus.

Pregnant women exposed to air pollution may experience complications such as preterm birth, low birth weight, and developmental issues in infants. In children, exposure to air pollution results in increased respiratory infections, exacerbation of asthma, and reduced development of lung function. There are well-defined pathways that link air pollution with cardiovascular conditions.

**THE MEDICAL FRATERNITY SHOULD COMMUNICATE EVIDENCE ABOUT THE HEALTH EFFECTS OF AIR POLLUTION TO POLICY-MAKERS SO THAT THEY DO NOT IGNORE IT. AIR QUALITY SHOULD BECOME A POLITICAL ISSUE.**

Along with limiting emissions in different sectors, strengthening air quality monitoring and reporting can help raise awareness about pollution levels and inform targeted actions. Timely reporting of air quality indices can enable individuals, communities and policy-makers to take the necessary precautions and make informed decisions to protect public health. There is evidence to show that decreasing PM exposure is correlated with better health outcomes. Policy-driven air pollution interventions have been shown to result in health benefits in terms of better lung function development in children. Several interventions to improve air quality have been implemented in India since 1981, but a lot more needs to be done. A multicentric study called Delhi Air Pollution: Health and Effects (DAPHNE) is being conducted among adolescent patients with asthma to understand the impact of air pollution on respiratory health. AIIMS also conducts awareness drives in schools in the city.





DIALOGUE

19



WHO DIALOGUE 19

# ORAL HEALTH SUFFERINGS OF EARLY CHILDHOOD: ARE WE FAILING AS A SOCIETY?

20 MARCH 2023

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## ABOUT THE SPEAKER

Professor **(Dr) Vijay Prakash Mathur** is Professor and Head, Department of Pedodontics and Preventive Dentistry in the Centre for Dental Education and Research, All India Institute of Medical Sciences, New Delhi. He is the Vice President of the Indian Society for Dental Research, Vice President of the Indian Society for Dental Traumatology and Vice President of the Indian Division of the International Association of Dental Research. He was awarded a Commonwealth Academic Fellowship to University College, London in 2014 and has been a recipient of several awards. He has over 150 publications and contributions to books. His main areas of interest are biomedical ethics, early childhood caries, dental trauma, soft tissue lasers, tobacco control and pharmacovigilance.

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## ABOUT THE DIALOGUE

The talk was attended by 65 professional staff from WHO South-East Asia Region.









## ORAL HEALTH SUFFERINGS OF EARLY CHILDHOOD: ARE WE FAILING AS A SOCIETY?

The oral disease burden is steadily rising in both developing and developed countries. In the South-East (SE) Asia Region, the prevalence of untreated caries of deciduous teeth among children 1–9 years is estimated to be 43.8%, with 135 million cases across all the countries. The Action Plan for Oral Health 2013–2020, developed by WHO, aimed to improve oral health outcomes and reduce oral health inequalities. For this, it suggested strengthening oral health-care systems by integrating oral health services into primary health-care systems, promoting development of the oral health workforce, and improving access to affordable and quality oral health-care services. This was followed up by the Action Plan for Oral Health in South-East Asia (2022–2030). It is a strategic framework aimed at

improving oral health outcomes in the Region. It provides guidance and sets priorities for Member countries in addressing oral health challenges, promoting preventive measures, strengthening oral health-care systems, and reducing oral health inequalities. Keeping 2013 as the baseline, the target is to achieve a 33.3% relative reduction of premature mortality from oral cancer, and a 25% relative reduction in the prevalence of untreated dental caries of permanent teeth by 2030.

**CHILDREN SUFFERING FROM  
EARLY CHILDHOOD CARIES (ECC)  
NOT ONLY HAVE THE BIOLOGICAL  
DISEASE BUT ALSO SUFFER**

## **DUE TO ITS CONSEQUENCES – FROM PAIN, SWELLING, DIFFICULTY IN CHEWING, SPEAKING, AND SOCIALIZING – RESULTING IN POOR OVERALL HEALTH, WEIGHT LOSS, POOR SCHOOL PERFORMANCE AND DETERIORATION OF SELF-ESTEEM, IRRITATION AND FRUSTRATION**

Children suffering from early childhood caries (ECC) not only have the biological disease but also suffer due to its consequences – from pain, swelling, difficulty in chewing, speaking and socializing – resulting in poor overall health, weight loss, poor school performance, deterioration of self-esteem, irritation and frustration. The suffering of young children has a negative impact on the whole family in terms of emotional trauma, work-hour loss, sibling psychological stress and financial difficulties. The direct and indirect costs of treatment for dental caries in children can be drastically distressing for an average family.

## **THE SOLUTION TO ADDRESS THIS SILENT EPIDEMIC LIES IN INTERSECTORAL AND MULTISECTORAL POLICIES AND COLLABORATION, BESIDES SURVEILLANCE, MONITORING AND RESEARCH. ORAL HEALTH CARE OF CHILDREN SHOULD BE BROUGHT UNDER THE PURVIEW OF UHC.**

Despite the health and social consequences of neglecting oral health, public health and oral health experts have not been able to present a comprehensive picture of the problem. For instance, data are lacking on the average number of children unable to eat or sleep due to dental caries or its consequences, and the proportion of children losing weight due to their inability to eat because of dental pain. Similarly, we do not have a fuller picture of the average number of school hours lost and

man-hours lost for the parents of children suffering from dental caries. If such data, along with the financial loss caused, are collected and presented to policy-makers and funding agencies, a case for greater investments in oral health programmes could be made. The failure to prevent ECC should be considered as amounting to social injustice.

As per Peres et al. (Lancet, 2019) “untreated caries in deciduous teeth was the tenth most prevalent health condition, affecting 9.0% of the global child population; the global age-standardised prevalence remained unchanged between 1990 and 2010 (9.0%)”; and “untreated caries in deciduous teeth peaked among children aged 1–4 years in 2015”. As ECC is fully preventable and our health system has not geared up for it for several decades, it can be considered as either ignorance or suboptimal performance of the health system. Decision-making about children’s hygiene, eating habits, and medical care depends on the primary caretaker. There is still a lack of consensus about nutritional instructions for children among health professionals. The availability of baby-friendly and “not harmful to teeth” food alternatives is rare. Oral hygiene products for young children are hardly available.

The solution to address this silent epidemic lies in intersectoral and multisectoral policies and collaboration, besides surveillance, monitoring and research. Oral health care of children should be brought under the purview of universal health coverage (UHC). To tackle the risk factors, taxation on sugar and tobacco products should be increased and the additional revenues generated should be used for oral health care. The hygiene product industry should be encouraged to make oral care products such as brushes for children. At the individual level, awareness among parents about feeding habits and preventing harmful habits like thumb sucking can go a long way in preventing ECC. Overall, all stakeholders (governments, researchers, academicians, industry and nongovernmental organizations [NGOs]) need to work together to find solutions. They need to network, collaborate and innovate to develop appropriate plans and policies to provide better oral health to the young population.





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# DIALOGUE 20



# INTEGRATED PEOPLE-CENTRED EYE CARE

20 JUNE 2023

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## ABOUT THE SPEAKER

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After a successful career in the USA as an academic ophthalmologist, **Dr Gullapalli N Rao** returned to India in 1987 and established the LV Prasad Eye Institute (LVPEI) in Hyderabad. The Institute combines modern eye hospital services with advanced training, a rehabilitation programme as well as product development. Dr Rao completed his postgraduate residency training at Dr Rajendra Prasad Centre for Ophthalmic Sciences, All India Institute of Medical Sciences, New Delhi. In the USA, he trained at Tufts University School of Medicine in Boston, and later at the School of Medicine, University of Rochester. He is a fellow of the National Academy of Medical Sciences, India, and was elected in 2017 to the Ophthalmology Hall of Fame instituted by the American Society of Cataract and Refractive Surgery.

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## ABOUT THE DIALOGUE

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The Dialogue took place on 20 June 2023, at the Regional Office, New Delhi. Dr Poonam Khetrpal Singh, Regional Director, chaired the session, while Dr Cherian Varghese, Acting Director of the Department of Healthier Populations and Noncommunicable Diseases at the WHO Regional Office, moderated. Dr Rao was also presented the “Heroes of Public Health” Award for the tireless and generous efforts of the LVPEI, which has positively impacted the lives of more than 30 million people. The Award was conferred on Dr Rao on World Health Day 2023. Over 60 professional staff members from the Regional Office and country offices participated in the hybrid mode.











## INTEGRATED PEOPLE-CENTRED EYE CARE

Blindness is a major public health challenge globally, with young children and older people being the most vulnerable. Globally, approximately 2.2 billion people have vision impairment or blindness. At least 1.1 billion people are living with vision loss due to a lack of access to basic eye care services, and over half of them are women and girls. Nearly 30% of the world's blind and vision-impaired individuals reside in the South-East (SE) Asia Region. Considerable progress has been made in the Region as a result of the “right to vision” initiative of WHO and the International Agency for Prevention of Blindness. The magnitude of blindness and moderate-to-severe vision impairment (MSVi) has decreased

between 1990 and 2015; three countries have achieved over 60% coverage of cataract surgery, and two countries (Myanmar and Nepal ) in the Region have become trachoma-free.

**LVPEI HAS PIONEERED THE UNIVERSAL AND HOLISTIC MODEL OF EYE CARE, AND CREATED SUSTAINABLE FACILITIES WITHIN COMMUNITIES, STAFFED AND MANAGED BY LOCALLY TRAINED HEALTH WORKERS.**



The concept of universal eye health encompasses comprehensive care, commitment to quality, delivery closer to the doorstep, continuity of care and community participation. To achieve this, WHO's report on vision released in 2020 advocated "integrated people-centred comprehensive care". In India, LVPEI has pioneered the universal and holistic model of eye care and created sustainable facilities within communities, staffed and managed by locally trained health workers and linked these centres with higher levels of care.

At the base of this pyramid are "vision guardians" – health workers trained to keep a close vigil on the eye health of about 5000 persons within communities through door-to-door surveys and other informal means. At the next level are "vision centres" catering to the primary eye health needs of the community. Each of these centres caters to a cluster of villages, individually servicing a target of around 50 000 people. The "secondary eye care centres" are networked to about 10 vision centres, serving a total population of half to one million. These centres are equipped to diagnose and treat the complete range of ophthalmological diseases and also offer surgical care for cataract.

### **THE MODEL HAS DEMONSTRATED THAT IT IS POSSIBLE TO PROVIDE AFFORDABLE OR FREE EYE CARE TO PEOPLE IN REMOTE RURAL AREAS WITHOUT COMPROMISING ON QUALITY.**

At the top are tertiary care hospitals and training centres that provide a full range of services and serve the training needs of the secondary centres. On top of the care pyramid are centres of excellence connected to tertiary centres. They can handle complex diseases, train the trainers in subspecialties and rehabilitation, and engage in advocacy. Starting from the vision guardians, centres at all levels draw upon local talent and are staffed by persons from the local community. Since 1995, LVPEI has served 36 million people

using this model, 54% of them at no cost to them. Nearly half the people served are women, thus we have been able to address gender inequity to a large extent.

### **WE NEED TO INTEGRATE MULTITIER EYE CARE WITH THE HEALTH-CARE SYSTEM, BUT WITHOUT LOSING PRIORITIZATION.**

For efficient delivery of prevention and care services, the model deploys innovative methods and tools. For instance, the innovation team at LVPEI has developed a low-cost screening tool, Folding Foropter, which can tell if someone needs correction for their refractive error. It costs only Rs 100 and can easily help teachers check the vision of students during annual health check-ups. Another innovation is the mobile diagnostic centre with high-end equipment, which visits secondary centres that do not have such equipment and is stationed there for a week.

The LVPEI model has demonstrated that it is possible to serve and bring marginalized populations into the health-care system and provide affordable or free eye care without compromising on quality. It has been able to eliminate 75% of all avoidable blindness due to the need for spectacles and by detecting potentially blinding problems. Many are beginning to replicate the model in India and other parts of the world. Countries in the Region can benefit from the LVPEI model and many have expressed interest in doing so. The challenge is to keep enhancing the quality of services and monitor outcomes, besides developing the required human resources. We also need to integrate multitier eye care with the health-care system, but without losing prioritization.





The background features a series of concentric circles and arcs in a light gray color, creating a ripple effect. The circles are centered on the left side of the page, with some arcs extending towards the right. The overall design is minimalist and modern.

## DIALOGUE 21



WHO DIALOGUE 21

# DENGUE IN THE LAST TWO DECADES: A DISEASE WHICH CANNOT BE NEGLECTED

28 APRIL 2022

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## ABOUT THE SPEAKER

Professor **(Dr) Ashutosh Biswas** is a Professor of Medicine and Senior Consultant in Infectious Diseases at the All India Institute of Medical Sciences (AIIMS), New Delhi, India. His area of interest is emerging infectious diseases, clinical research, and epidemiology. He was awarded a WHO fellowship for training in the prevention, control, and management of dengue in 2002. He is a Fellow of the International Medical Sciences Academy (IMSA) and has published over 200 research papers in international and national journals.

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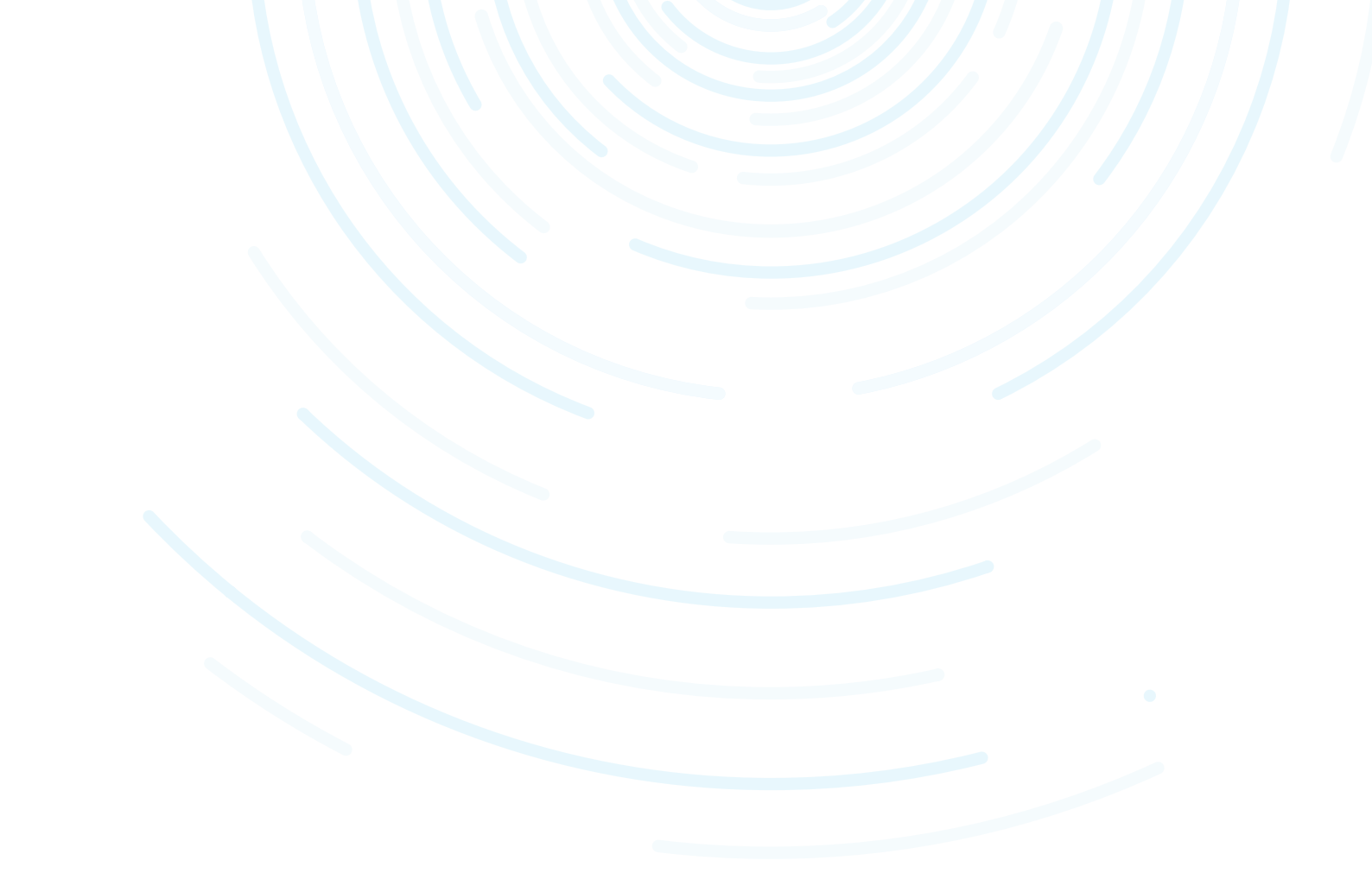
## ABOUT THE DIALOGUE

The talk was delivered on 28 April 2022. The session was chaired by Dr Suman Rijal, Director of Communicable Diseases, and attended by 40 participants from the Region.









## DENGUE IN THE LAST TWO DECADES: A DISEASE WHICH CANNOT BE NEGLECTED

Dengue has emerged as a major public health challenge in all Member States of the SE Asia Region of WHO in the past few years. Globally, it is the most widespread and rapidly increasing vector-borne disease. Around 3.5 billion people are living in dengue-endemic countries. Of these, 1.3 billion people live in 10 dengue-endemic countries in the SE Asia Region. Five of them – India, Indonesia, Myanmar, Sri Lanka and Thailand – are among the highly endemic countries in the world. At present, there is no treatment for dengue and the only available vaccine is not capable of preventing the disease or reducing its severity in the infected. The vaccine can be administered only to infected

persons and is not meant for dengue-naïve individuals. Despite multiple challenges, dengue continues to be neglected by major donors and partners and limited resources are available for innovation, research and operations.

**DESPITE MULTIPLE CHALLENGES, DENGUE CONTINUES TO BE NEGLECTED BY MAJOR DONORS AND PARTNERS AND LIMITED RESOURCES ARE AVAILABLE FOR INNOVATION, RESEARCH AND OPERATIONS.**

Since the first isolation of the dengue virus in 1943, four serotypes have been identified. They have spread rapidly across the tropical and subtropical regions of the world. The epidemic risk has increased from 8- to 30-fold in recent decades. Dengue is responsible for 16% of travel-related febrile illnesses. Urbanization and international travel are among the key facilitators of the spread of dengue. The virus can travel from one place to another either through infected persons or the importation of mosquitoes. Despite this, the disease does not receive adequate attention in all its aspects – prevention, control, diagnosis and clinical management.

**MODIFICATIONS IN HUMAN BEHAVIOUR ARE NECESSARY TO TACKLE DENGUE BECAUSE IT IS HUMAN ACTIONS THAT CREATE FAVOURABLE CONDITIONS FOR MOSQUITO BREEDING.**

The virus is transmitted through a complex interaction between the host and the virus. The transmission between the vector and the host is bidirectional. The vector, the *Aedes* mosquito, gets infected when it bites an infected host, and then transmits it further to uninfected hosts. These mosquitoes breed under favourable environmental conditions such as moderate rainfall, temperature and humidity. If this transmission cycle is interrupted, then the spread can be controlled. The virus also gets passed on to the egg of the female *Aedes* mosquito. Such mosquitoes carry the virus by birth. Therefore, vector control strategies should cover adult mosquitoes as well as the larvae and eggs.

Another neglected area of dengue control is the possibility of human-to-human transmission via blood transfusion, sexually transmitted diseases, needle-stick injuries and mother-to-child transmission. During dengue outbreaks, people come forward to donate blood but some of them may be asymptomatic carriers of dengue. This factor is neglected, and blood is not tested for dengue. Disease control policies need to take this mode of transmission into account and

suggest appropriate testing strategies. To prevent further transmission from infected persons, additional measures are necessary such as keeping the patients in isolation and under a mosquito net during the febrile stage. To prevent travel-related transmission during the transmission season, an NS1 positivity test should be necessary, along with aircraft disinfection.

**THE SEVERITY OF THE DISEASE IS GREATER AND HOSPITALIZATION MORE FREQUENT AMONG THOSE WITH COMORBIDITIES. THIS POSES NEW CHALLENGES FOR THE CLINICAL MANAGEMENT OF THE CASES.**

In recent years, the disease has shown some new trends. Earlier, children were among those affected, but now it is older people (those above 14 years) who get affected. This has been observed in all endemic countries in the Region. The severity of the disease is greater and hospitalization more frequent among those with comorbidities. This poses new challenges for the clinical management of cases. In addition, transmission is being reported from rural areas as well. The increase in vector density in rural areas is due to human factors such as development, population growth and greater contact with urban areas. The number of states in India where dengue is endemic has gone up from eight to 35 in two decades. However, the case fatality rate (CFR) in India has come down to 0.1% due to a better understanding of the disease and clinical management through capacity-building in hospitals and the formulation of national guidelines.

If the world has to eliminate dengue, we must recognize that this cannot be achieved only through biomedical means and vector control because dengue, in many ways, is a human-induced disease. Modifications in human behaviour are necessary to tackle dengue because it is human actions that create favourable conditions for mosquito breeding.





# WHO South Dialogue







# South-East Asia Dialogue

