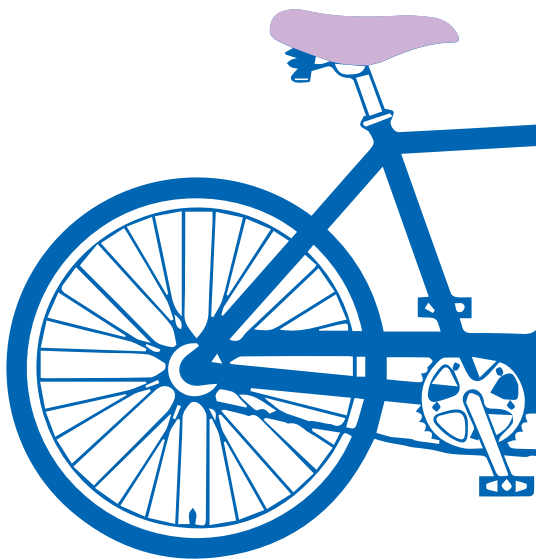


Conference Report

From Resilience Theory to Deployable Action



The GLC4HSR's **ANNUAL CONCLAVE** **2026**

MARCH 24-25, NEW DELHI

Thanking all Partners

Conclave Co-Hosts



Session Partners



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Executive Summary

The GLC4HSR's
ANNUAL
CONCLAVE
2026
MARCH 24-25, NEW DELHI

GLOBAL
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IN
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THE HEALTH SYSTEMS INSTITUTE

From Resilience Theory to Deployable Action



The GLC4HSR's ANNUAL CONCLAVE 2026

MARCH 24-25, NEW DELHI



The fourth Global Learning Collaborative for Health Systems Resilience (GLC4HSR) Conclave reinforced a central message: **the global conversation has moved beyond defining resilience to demonstrating how it can be operationalized.**

Across discussions on governance, primary healthcare, financing, digital health, workforce, regulation, and emergency preparedness, speakers consistently emphasized that resilient health systems are not built during crises. They are created through everyday investments in institutions, people, data, financing, and communities that enable systems to anticipate, absorb, adapt, and recover.

What distinguished this conclave was its emphasis on **implementation**. Rather than discussing resilience as an abstract concept, regions shared practical experiences, from **Kerala's community-driven One Health surveillance, Thailand's value-based purchasing reforms, India's Integrated Health Information Platform (IHIP)** and wastewater surveillance initiatives, to emerging AI governance frameworks and regional regulatory cooperation.

Collectively, these examples demonstrated that resilience is achieved through coordinated systems that continuously learn, improve, and adapt rather than through isolated programmes or emergency interventions.



Strategic Takeaways

01

Resilience must be embedded in routine health system functioning, and not be activated only during emergencies.

Perhaps the strongest message across the conclave was that resilience is a continuous system capability rather than an episodic response. Countries that responded effectively to COVID-19 and other public health emergencies had already invested in strong governance, primary healthcare, surveillance, and community engagement long before crises emerged.

This was illustrated vividly through **Kerala's One Health approach**, where more than **200,000 trained community volunteers** support surveillance and risk communication across local governments. The state has established **26 district-level Nipah response committees**, institutionalized routine simulation exercises, and embedded preparedness into routine governance rather than treating it as a crisis-specific activity. These examples demonstrated that resilience is created through sustained institutional capacity rather than emergency mobilisation alone.

The inaugural plenary similarly emphasized that governance, financing, science, workforce, and communities must function as an integrated system if resilience is to become operational at scale.

02

Primary healthcare and care coordination are the operating system of resilient health systems.

Expanding access alone is insufficient if care remains fragmented. Speakers repeatedly argued that resilience depends on ensuring patients move seamlessly across different providers, facilities, and levels of care.

Examples presented during the care coordination session showed how **patient pathway mapping, structured referrals, appointment-based navigation, digital longitudinal records, and multidisciplinary teams** can reduce fragmentation while improving patient outcomes. The discussions reinforced that many coordination failures can be solved through better processes and accountability rather than additional infrastructure.

India's experience through the **Ayushman Bharat initiative**, with its nationwide network of Health and Wellness Centres and expanding digital health ecosystem, further demonstrates how primary healthcare is increasingly serving as the foundation for integrated, people-centred care.

The emphasis is gradually shifting from measuring utilization alone to improving patient outcomes and continuity of care.



03

Data systems must evolve from reporting platforms into real-time decision-support infrastructure.

Across multiple sessions, speakers agreed that the challenge is no longer collecting data but converting information into actionable intelligence.

India's **Integrated Health Information Platform (IHIP)** demonstrated this transition. The platform now receives data from **over 200,000 reporting units**, ranging from Ayushman Arogya Mandirs to medical colleges, while integrating clinician reporting, laboratory confirmation, GIS mapping, AI-enabled media surveillance, and community-generated alerts into a unified surveillance ecosystem. These capabilities allow epidemiologists to identify disease clusters early and coordinate responses before outbreaks escalate.

The conclave also highlighted the rapid evolution of **wastewater surveillance in India**. Initially deployed during COVID-19, metagenomic surveillance is now being expanded to monitor **antimicrobial resistance (AMR), emerging pathogens, and community health risks**. The programme has grown from pilot sites to **57 hospital wastewater locations**, with plans for a nationwide network of approximately **100 community sites** and an eventual scale-up to nearly **1,000 locations**. These innovations illustrate how surveillance is becoming increasingly predictive rather than reactive.

04

Digital transformation must be accompanied by robust governance.

Digital technologies, including artificial intelligence, genomic surveillance, electronic health records, and predictive analytics, featured prominently throughout the conclave. However, speakers consistently cautioned that technology alone does not create resilient systems.

Discussions on AI governance highlighted the importance of **ethical oversight, transparency, accountability, interoperability, and public trust**. Participants referenced WHO's evolving guidance on AI governance alongside India's work through the Indian Council for Medical Research and national digital health initiatives, emphasizing that governance frameworks must evolve as rapidly as technological innovation.

The overarching message was clear: digital infrastructure should strengthen equity, decision-making, and accountability rather than creating new forms of fragmentation or exclusion.



05

Financing reforms can fundamentally reshape health system performance.

The strategic purchasing session demonstrated that **how countries purchase healthcare is often as important as how much they spend.**

Thailand's Universal Coverage Scheme provided one of the most compelling examples. Through a carefully balanced combination of **capitation, diagnosis-related groups (DRGs), and outcome-oriented purchasing**, Thailand has achieved strong health outcomes while reducing catastrophic health expenditure to approximately **0.2 percent**, despite spending only around **5 percent of GDP on health**. The experience illustrated how payment mechanisms influence provider behaviour, improve efficiency, and encourage quality improvement.

Indian speakers discussed how **Ayushman Bharat Pradhan Mantri-Jan Aarogya Yojana**, covering more than **550 million people through over 30,000 empanelled facilities**, is increasingly exploring similar approaches that reward quality, strengthen care pathways, and promote outcome-based purchasing rather than simply reimbursing service volume.

06

Workforce resilience requires transforming competencies, not simply increasing numbers.

The conclave challenged the long-held assumption that producing more health professionals alone will solve workforce shortages.

Despite India graduating more than **100,000 doctors annually**, speakers noted persistent shortages in rural and underserved areas, with vacancy rates remaining high because workforce distribution, incentives, and education have not kept pace with changing health system needs. Discussions called for competency-based education that combines clinical excellence with systems thinking, quality improvement, public health preparedness, teamwork, digital literacy, and compassion.

The proposed reforms, including social prescribing, health humanities, and multidisciplinary practice, reflect a broader shift toward preparing health professionals who can operate effectively within increasingly complex and interconnected health systems.

07

Strong regulatory ecosystems improve both resilience and access.

The sessions on regulatory harmonization highlighted growing recognition that resilient supply chains require stronger regional cooperation.

Examples from the **African Medicines Agency (AMA)** and the **African Medicines Regulatory Harmonization (AMRH)** initiative illustrated how countries are working together to streamline regulatory processes, accelerate access to medicines and diagnostics, and strengthen manufacturing capacity. These experiences complement India's expanding role as a global manufacturer of vaccines and pharmaceuticals, demonstrating that resilient health systems increasingly depend on coordinated regional regulatory ecosystems rather than isolated national approaches.

08

Communities remain the first line of resilience.

Several sessions emphasized that resilient systems are built not only through hospitals and technology but also through trusted relationships with communities.

Examples such as Kerala's volunteer networks, community-based surveillance integrated within IHIP, and the **One Health Village** approach illustrated how citizens can become active participants in surveillance, preparedness, and health promotion. These experiences reinforced that trust, communication, and community engagement are essential operational assets during both routine service delivery and emergencies.



Priority Action Agenda

The discussions converged around a practical agenda for governments, implementing agencies, and development partners.

For national and state governments

- Institutionalize resilience within routine governance, budgeting, and service delivery rather than treating it solely as an emergency function.
- Strengthen primary healthcare as the coordinating platform for integrated, person-centred care.
- Expand interoperable digital infrastructure while establishing robust governance for AI, data privacy, and ethical use.
- Modernize surveillance by integrating facility data, laboratory networks, genomic surveillance, wastewater monitoring, media intelligence, and community reporting.
- Reform provider payment mechanisms to reward quality, prevention, continuity of care, and health outcomes.

For implementing institutions

- Design services around complete patient journeys rather than individual facilities or programmes.
- Build multidisciplinary teams with competencies in systems thinking, quality improvement, digital health, and emergency preparedness.
- Embed continuous learning, measurement, and adaptive management into routine operations.
- Integrate public and private providers into coordinated care pathways supported by shared standards and interoperable information systems.

For development partners and GLC4HSR

- Accelerate south-south learning by documenting and adapting successful implementation models such as Kerala's One Health governance, Thailand's strategic purchasing reforms, and India's digital surveillance architecture.
- Support countries in translating global guidance into context-specific implementation strategies.
- Expand collaborative learning on emerging priorities, including AI governance, workforce transformation, antimicrobial resistance, and climate-resilient health systems.
- Continue serving as a neutral platform that convenes governments, academia, development partners, and implementers to accelerate the translation of evidence into policy and practice.

Conclusion

The conclave demonstrated that **health systems resilience is no longer an aspirational concept but an operational discipline**. Across diverse contexts, countries presented practical examples showing that resilience is strengthened through better governance, coordinated primary healthcare, intelligent financing, trusted community partnerships, integrated surveillance, future-ready workforces, and responsible digital transformation.

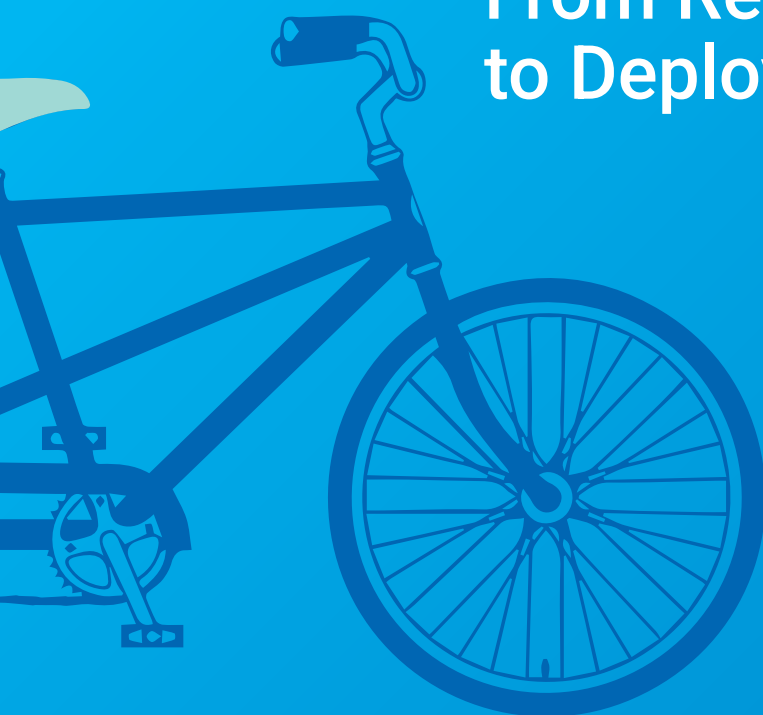
Whether through Kerala's institutionalized One Health preparedness, Thailand's strategic purchasing reforms, India's expanding digital surveillance ecosystem, or regional regulatory collaboration, the common lesson was unmistakable: resilient health systems are built through sustained investments in everyday system performance rather than crisis-specific interventions. The opportunity now is to scale these proven approaches, adapt them across contexts, and convert implementation experience into lasting institutional capability, ensuring that health systems are not only better prepared for future shocks but also deliver better health outcomes every day.





Inaugural Plenary

From Resilience Theory to Deployable Action



The inaugural plenary of the fourth annual convening of the Global Learning Collaborative for Health Systems Resilience (GLC4HSR) set the intellectual and operational tone for the conclave. The session brought together senior policymakers, global health leaders, scientists, and academic voices to examine a central question: how do health systems move from conceptual understandings of resilience to real-world, deployable action?

Across the plenary, resilience was consistently described not as a slogan, a vertical program, or a crisis-only competency, but as a **system property**: one produced through institutional design, preparation, evidence, financing, feedback, and implementation across scales.



Setting the Frame: Resilience as an Outcome of Systems Thinking

Opening the conclave, Dr. N. Krishna Reddy, CEO of ACCESS Health International, situated the Global Learning Collaborative for Health Systems Resilience itself as an evolving platform born from disruption and intended for sustained collective learning. His remarks gave the session a philosophical as well as operational frame. He described resilience as “neither a slogan nor an abstract aspiration,” but as the outcome of preparation, coordination, evidence, and implementation. Tracing the shifts shaping contemporary health systems, he described a movement away:

- from the traditional building-blocks framing toward people-centered systems,
- from a mono-crisis orientation toward polycrisis environments,
- from globally-imposed framings toward local-to-global system design,
- and from sectoral responses toward whole-of-government and whole-of-society approaches.

He described the collaborative as aspiring to be “self-organizing, self-governing, and self-sustaining,” and framed its method as a “virtuous cycle of knowledge to action, action to knowledge”- a movement he evocatively linked to the reciprocal journey between understanding and practice.

A recurring thread in his address was the gap between conceptual acceptance and operational execution. He argued that older models of health systems had not truly placed people at the center, and he called for a reframing in which governance, systems, and society move together. His shorthand- “whole of governance, whole of system, soul of society”- captured the tone of the session well. So did his imagery of learning as a river that converges annually at the conclave before dispersing again, carrying ideas outward.

His closing suggestion that “ideas act like good viruses” conveyed the hope that the conclave would not end in discussion alone, but would replicate through action, experimentation, and policy change.



Operationalizing Resilience: Governance, Surveillance, and Preparedness

Dr. Rajan N. Khobragade

Additional Chief Secretary,
Government of Kerala*, India



Dr. Rajan N. Khobragade, Additional Chief Secretary, Government of Kerala, grounded the plenary in implementation detail, offering Kerala's experience as a case study in operational resilience.

Extending the tandem metaphor with a note of caution, he observed that a system running on a treadmill does not move forward: motion without direction is not resilience.

He described Kerala's community-based One Health surveillance architecture, which has trained more than 200,000 volunteers across 268 local bodies to serve as an early-warning layer, reporting vector proliferation, animal deaths (monkeys, birds), and environmental anomalies through a structured reporting chain that moves from ward to panchayat to block to district. This surveillance capacity is underpinned by institutionalized convergence: multi-departmental coordination embedded at local levels, rotational leadership to ensure shared ownership, and a deliberate emphasis on proximity to the field as a determinant of effective inter-sectoral action.

Drawing on Kerala's Nipah experience, Dr. Khobragade illustrated how post-event system learning had been institutionalized through medical boards, 26 functional committees with clearly defined roles, daily feedback

loops, and pre-configured response systems capable of activation within hours of a signal. This learning has since been scaled into pandemic preparedness planning at the panchayat level across the state, supported by resource mapping, workforce training, and routine mock drills.

His core proposition was that resilience is built through structured rehearsal, decentralized governance, and continuous system learning- not through ad hoc crisis response.



One Health should not become one department's agenda; it must become everybody's agenda, with structures that make every sector an equal partner.



*All designations in the report are as of the date of the Conclave.

Resilience at Scale: Capacity Constraints and System Priorities



Dr. Amit Kumar Ghosh
Additional Chief Secretary,
Government of Uttar Pradesh, India

Dr. Amit Kumar Ghosh, Additional Chief Secretary, Government of Uttar Pradesh, brought attention to the complexities of operationalizing resilience in very large, resource-constrained systems. In a state like Uttar Pradesh, with a system with more than 3,000 Primary Health Centres, over 960 Community Health Centres, 300 district hospitals, and an estimated deficit of around 9,000 doctors, resilience cannot be imagined in boutique terms.

His examples were especially powerful because they translated system constraints into ordinary economics. He noted that a poor patient arriving at a PHC may receive roughly ₹12 worth of medicines, compared with approximately ₹22 at a CHC and ₹60 at a district hospital, simple figures that reveal how frontline care, perceived value, and system trust are shaped by resource distribution.

Dr. Ghosh's remarks also underscored that resilience at scale depends on long-horizon investments. He pointed to the rapid expansion of medical education through 43 new medical colleges, including 28 in the government sector, and noted with some satisfaction that graduates from elite institutions such as AIIMS Delhi are increasingly willing to work within the Uttar Pradesh system. He identified emergency and trauma care, cancer care, and maternal mortality reduction as strategic priorities, but his most important

systems insight concerned the gap between data and action. The problem, as he framed it, is no longer only the generation of data; it is the failure to convert data into decisions that improve governance in real time. He also highlighted the continuity value of surveillance and social mobilization networks, including the need for the state to step in when external financing wanes. In this formulation, resilience is not just about expanding services but about protecting connective tissue- those platforms and networks that sustain continuity under pressure.



Governance for outcomes requires us to move beyond data collection and build the capacity to interpret, act, and improve.



Linking Universal Health Coverage, Health Security, and Resilience

Mr. Manoj Jhalani

WHO South-East Asia Regional Office (SEARO)



Mr. Manoj Jhalani of the WHO South-East Asia Regional Office (SEARO) situated resilience within a broader macroeconomic and systems framework. His intervention was conceptually elegant and deliberately unifying: “There’s only one health system,” he argued, and the same system that advances UHC must also provide health security during emergencies. . In that sense, UHC and health security are not separate tracks but “two sides of the same coin,” with resilience serving as the bridge between them. He anchored his remarks in the scale of recent losses: over six million excess deaths in the SEARO region, 90–120 million people pushed into extreme poverty, and global economic losses of USD 13–15 trillion between 2020 and 2023.

Primary health care, he argued, must be the operational core of this system, defined through integrated service delivery, essential public health functions, multisectoral action, and genuine community engagement.

On financing, he cited pandemic preparedness estimates of approximately USD 130 per capita per year and urged a shift toward domestic financing and value-based spending, warning against the familiar panic–neglect cycles that leave systems underprepared between crises.

He further positioned digital and AI infrastructure as core -not ancillary to resilient systems, enabling real-time data integration, predictive surveillance, frontline decision support, and supply chain optimization. Throughout, he emphasized that communities must be understood as partners in resilience, not merely as beneficiaries of it.



Resilience is not only about bouncing back; it is also about bouncing forward toward systems that deliver in calm and crisis.



Science, Evidence, and Innovation in System Preparedness



Dr. Sanghamitra Pati

Indian Council of Medical Research (ICMR)

Dr. Sanghamitra Pati of the Indian Council of Medical Research (ICMR) argued that resilience must be evidence-led and innovation-driven, anchored in robust scientific systems. Her sharpest line: “Only in God we believe. All others, please bring evidence,” captured the methodological approach she brought to the session.

She pointed to the Virus Research Diagnostic Laboratory (VRDL) network- a tiered structure spanning the apex National Institute of Virology, regional laboratories, and state and medical college labs- as an example of how latent capacity built during peacetime enabled rapid scale-up during COVID-19. She also highlighted the importance of indigenous innovation, including major reductions in diagnostic costs (from INR 2,500 to roughly INR 150) through domestic development and public-private collaboration, and pointed toward newer layers of integrated surveillance such as wastewater monitoring, zoonotic intelligence, and multi-sectoral data integration.

Importantly, she pushed the resilience conversation beyond pandemics, noting the serious disruptions experienced during COVID-19 in non-communicable disease management, dialysis and chemotherapy services, and elderly and dementia care. At the same time, Dr. Pati pushed back against any narrow

definition of preparedness. A health system, she argued, is not resilient simply because it is pandemic-ready; it is resilient when it can continue to meet the full spectrum of health needs under conditions of stress. Her central argument was that a resilient system must sustain routine care under stress, not merely respond to crises. She also called for a culture of learning, unlearning, and relearning- including dedicated research on health systems education itself.



Resilience is about how science accommodates itself to remain contemporary and address emerging challenges in a time-bound manner.



Resilience in a Changing Planet: Equity, Climate, and Governance



Prof. Mala Rao
Imperial College London

Professor Mala Rao of Imperial College London expanded the resilience discourse to planetary and structural dimensions. She situated health systems within a context of global temperature rise of approximately 1.43°C above pre-industrial levels.

Her intervention was a reminder that health systems no longer operate against a stable environmental backdrop. With climate indicators “flashing red,” the question is not only how health systems respond to disease shocks, but whether the infrastructures on which they increasingly depend- energy, cooling, digital systems, supply chains, workforce availability- can remain functional under extreme heat, flooding, and ecological disruption. Her challenge to the room was therefore both ethical and practical. Trust, community engagement, primary care, and decentralization were foundational enablers in her framing. So too was humility: she urged institutions to set aside ego and turf wars in order to work together in ways the public can trust

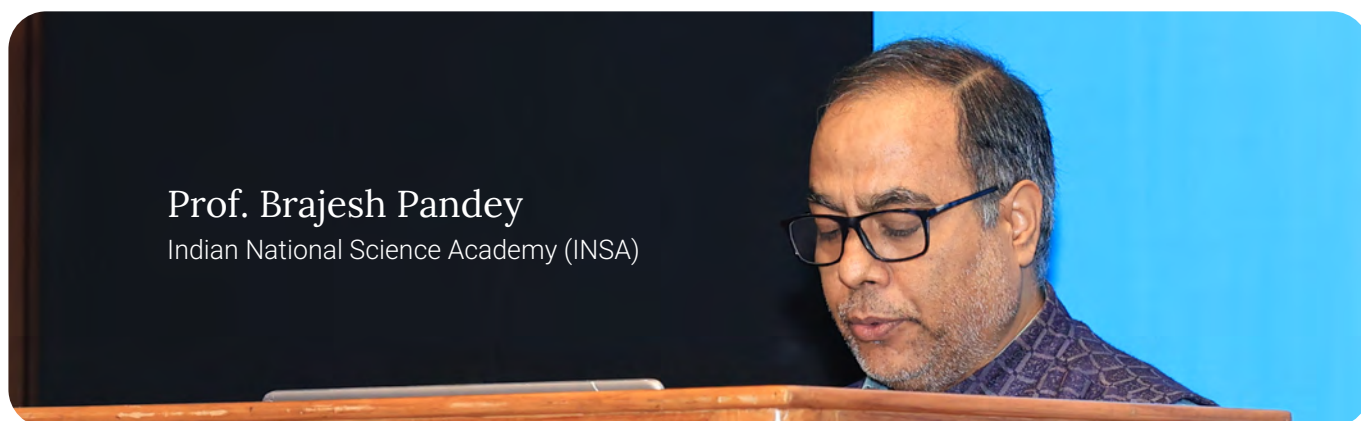
Her framing elevated several dimensions often treated as soft or secondary: trust as infrastructure, community engagement as a prerequisite rather than an add-on, and gender equity as a resilience multiplier.



Nurturing community allyship is valuable not only during crisis, but also for strengthening trust, ownership, and compliance at all times.



Science: Policy Interface and Systems Integration



Prof. Brajesh Pandey
Indian National Science Academy (INSA)

Professor Brajesh Pandey of the Indian National Science Academy (INSA) reinforced the role of scientific institutions as bridges between knowledge and action. He articulated resilience as a composite of anticipation, adaptation, and continuity, and underscored the importance of translational science in closing the gap between evidence and decision-making. He pointed to initiatives such as ongoing policy engagement with NITI Aayog and the ARANI platform for collaborative research ecosystems as concrete examples of how scientific bodies can operationalize this role.

His focus on interdisciplinary convergence, institutional partnership, and capacity-building helped position scientific bodies not only as generators of knowledge but as bridges between research, policy, and implementation.



Health system resilience cannot be addressed in silos; it requires convergence across biomedical science, data science, social science, and policy research.





Across the Plenary

Across the plenary, several technical themes converged into a shared analytical frame. Resilience was consistently described as a continuous system property rather than an episodic capability- embedded in everyday functioning rather than activated only in crisis.

Primary health care emerged as the operational core of resilient systems, serving both routine care and emergency response.

Decentralization and community integration were repeatedly identified as essential for early detection, timely response, and the maintenance of public trust.

Speakers emphasized the need for institutional learning systems and feedback loops that allow systems to adapt based on experience, and called for a shift in financing from reactive surges to sustained, value-based investment.

Digital and data systems were positioned as infrastructure for surveillance, decision-making, and resource allocation, while equity and inclusion were treated as central to resilience. It focused on digital systems that support, rather than stratify, access and action.

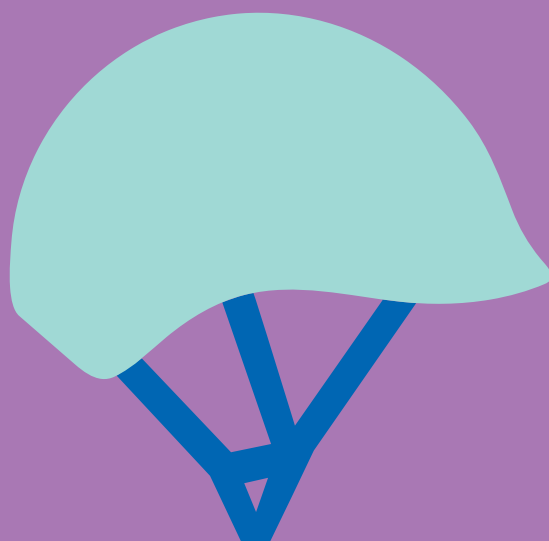
The inaugural plenary established a clear and rigorous direction for the conclave: the transition from conceptual clarity to implementation capability. Resilience, as articulated across the session, is not achieved through isolated interventions but through aligned systems-governance, science, financing, workforce, and communities, all working in coordination.

The challenge ahead, as repeatedly emphasized, lies not in defining resilience, but in designing and sustaining systems that can operationalize it at scale, in real time, and under conditions of uncertainty. It marked a collective insistence that resilience must move decisively from theory to deployable action.



Thematic Session 01

Prevention, Preparedness, Response, and Recovery (PPRR) for Public Health Emergencies and Crises



SPEAKERS' DETAILS

Dr. Rohini Omkar Prasad

Regional Director - Southeast Asia,
ACCESS Health International
Moderator

Dr. Sohel Saikat

Senior Advisor - Primary Health Care;
Lead Health Systems Resilience and EPHFs,
World Health Organization
Keynote speaker

Dr. Rakesh Mishra

Director, Tata Institute for Genetics and Society
Keynote speaker

Dr. Pranay Verma

Joint Director, National Center for Disease Control, India
Keynote speaker

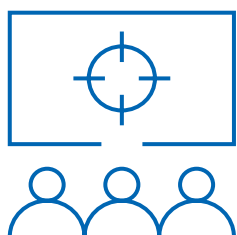
Ms. Ranjini Mukherjee

Director - Research, Knowledge Management and
Capacity Development, Coalition for Disaster Resilient
Infrastructure
Keynote speaker

Prof. Utpal Tatu

Professor & Chairman Department of Biochemistry,
Indian Institute of Science
Keynote speaker

Context & Session Objectives



Growing global recognition highlights that the health systems must be equipped to respond not only to pandemics but also to a wide range of public health emergencies, including climate-related events, conflicts, and humanitarian crises. Experiences from the COVID-19 pandemic exposed significant gaps in health systems worldwide, particularly in areas such as surveillance, governance, coordination, and equitable access to healthcare resources. In response, global efforts such as the WHO Pandemic Agreement have emphasized the need for resilient health systems, stronger disease surveillance using integrated approaches like One Health, and sustainable financing mechanisms. However, translating these global commitments into effective national and sub-national action remains a key challenge, especially for low- and middle-income countries (LMICs).

The session attempts to highlight the growing importance of building adaptable and resilient systems through strengthened health infrastructure, workforce capacity, and multisectoral coordination. A critical component of this transformation is the use of real-time data and digital technologies, including electronic health records, genomic surveillance, and AI-driven analytics, to enable timely and evidence-based decision-making. At the same time, operationalizing approaches such as One Health and ensuring equitable access to pathogen data and benefits require overcoming systemic challenges such as resource constraints, fragmented systems, and limited institutional capacity. Against this backdrop, the session provides a platform to examine how countries are addressing these complexities while advancing comprehensive preparedness and response frameworks.

Key objectives:

- To understand the implementation of pandemic preparedness, response, and recovery strategies, with a focus on how global frameworks are translated into national-level actions.
- To understand approaches for strengthening health system resilience through effective governance, One Health integration, robust infrastructure, and the use of data and coordinated mechanisms.

Dr. Rohini briefly introduced and welcomed the speakers for the session on prevention, preparedness, response, and recovery for public health emergencies and crises. She noted that COVID-19 exposed major weaknesses in public health systems globally. Although global instruments like the WHO pandemic agreement have generated momentum, the harder task now is implementing these commitments through effective governance, infrastructure, and community engagement. The session is positioned as a move beyond merely identifying gaps toward exploring concrete, workable approaches to strengthening health system resilience. It brings together perspectives on governance architecture, environmental surveillance, operational response, disaster-resilient infrastructure, and One Health implementation, with the goal of examining the real-world challenges of operationalizing prevention, preparedness, response, and recovery systems and outlining practical pathways for action.

Expert Presentations

Governance and National Preparedness Architecture



Dr. Sohel Saikat

World Health Organization

Dr. Sohel Saikat highlighted that we are in a period of overlapping crises, and the world has emerged from COVID-19 with very high direct and excess mortality. These shocks, combined with economic constraints, issues like NCDs, infectious diseases, AMR, conflict, and climate change, cannot be addressed in isolation. Instead, the roles of health workers, information systems, and service delivery platforms must be diversified in order to have a greater impact with limited resources.

He emphasized the need for a stronger public health and intersectoral approach that connects core health functions with allied sectors such as food, environment, transport, animal health, and social care. Emergencies now differ across regions, from NCD burdens in Europe and North America to climate-related and communicable disease threats in parts of sub-Saharan Africa, requiring preparedness systems that are adaptive, proportionate, and locally relevant. Fragmented, short-term, and reactive financing across humanitarian, IHR/GHS, and vertical programmes often fails to build integrated, nationally led baseline capacity.

Dr. Saikat noted that WHO's recent resilience work focuses on strengthening Essential Public Health Functions (EPHFs), including a unified list of 12 functions: four service-delivery functions and eight enabling functions. This framework brings public health roles into one coherent structure, with emphasis on equity, population-wide protection, and support for marginalised and high-risk groups. It also places stewardship and governance at the centre, covering mandates, legal authority, resources, scientific independence, accountability, and coordination across sectors.

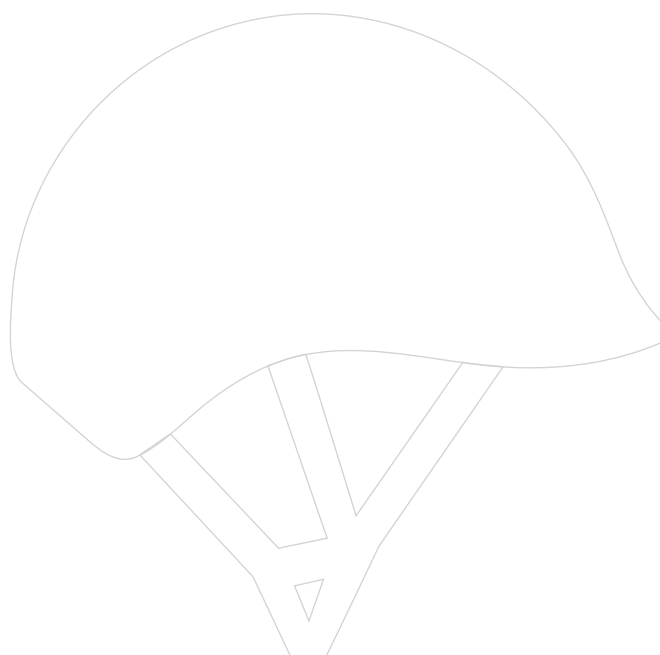
Dr. Sohel highlighted several challenges in current public health governance, starting with the absence of a unified approach. Mandates of ministries of health and national public health institutes are often narrow; many key public health functions lie across multiple line ministries, governance remains siloed and reactive, with weak intersectoral accountability. At the global level, the new WHO pandemic agreement and amendments to the International Health Regulations seek to address COVID-19 lessons by improving alert levels, shifting from a single institutional "focal point" to

a broader national coordinating mechanism, and promoting sustainable financing and solidarity across countries to reduce inequalities in access to supplies, medicines, vaccines, and workforce during future emergencies.

Dr. Sohel mentioned that there are ongoing global reforms within the WHO and the UN system, linked to the new pandemic agreement and IHR amendments, alongside initiatives like the Lusaka Agenda that promote “one plan, one budget, one financing, one M&E,” better coordination, and fairer financing across income settings, with a strong emphasis on primary health care’s role in public health and resilience. In this context, WHO has developed a flexible public health governance framework with core functions, enablers and principles (integration, comprehensiveness, shared responsibility) to help countries, regardless of whether public health is led by a ministry, CDC or national public health institute, and to assess if they have adequate strategy and policy capacity, legal authority, partnership mechanisms, stewardship, political backing and budgets, and to ensure governance covers the full spectrum from health promotion and prevention to protection and emergency management rather than focusing only on pandemics.



We cannot have governance focusing only on pandemic preparedness. We need to move away from reactive governance and invest in routine health systems strengthening.



Integrating Environmental Surveillance into the National One Health Agenda and Preparedness



Dr. Rakesh Mishra

Tata Institute for Genetics and Society

Dr. Rakesh Mishra highlighted how a COVID-19 era wastewater surveillance initiative has evolved into a broader national environmental surveillance effort. The work began early in the pandemic at a sewage treatment plant in Hyderabad, where viral load estimates suggested infection levels nearly 20 times higher than reported clinical cases. Subsequent serosurveys validated these findings, establishing wastewater as a reliable community-level signal. The team later expanded surveillance from sewage treatment plants to open drains, standardised sampling and analysis protocols, and continued monitoring SARS-CoV-2 in Bengaluru and Hyderabad to detect “silent” waves even when clinical case numbers remained low.

The initiative expanded through the Alliance for Pathogen Surveillance Innovations India (APSI), bringing together research institutions, clinical partners, industry, and government stakeholders across Hyderabad, Bengaluru, Pune, and Delhi. Routine wastewater surveillance workflows were developed and later extended to antimicrobial resistance (AMR) and other microbes. The programme also focused on skilling, point-of-care diagnostics, indigenising reagents to reduce costs, and engaging policymakers. Standard operating procedures for major steps in environmental surveillance were made freely

available, and a draft national guideline was shared with NCDC, which is now engaging with the framework for policy and decision-making.

Dr. Mishra explained that the work has moved from RT-PCR-based detection to metagenomic analysis, which sequences all genetic material in wastewater. This allows an unbiased understanding of local microbiomes, biodiversity, emerging pathogens, and AMR risks. Open-drain samples have revealed site-specific AMR signals, including distinct resistance profiles downstream of slaughterhouses. Building on this, the team partnered with ICMR to embed AMR wastewater surveillance into the national VRDL network by analysing hospital-linked wastewater, defining priority AMR targets, and developing affordable, indigenised 20-target RT-qPCR panels and SOPs for routine monitoring.

Dr. Mishra highlighted that Metagenomic analysis of wastewater now generates rich data on prevalent pathogens and AMR profiles, which can be used to design targeted diagnostic kits and inform broader surveillance strategies. The work has scaled from four city clusters to 57 hospital wastewater sites, new syndromic metagenomic surveillance from clinical samples, and a planned national community wastewater network covering about 100 locations, with a long-term ambition of 1,000 sites across



India. Dr. Mishra also noted unresolved questions around sampling locations, frequency, target organisms, technologies, and open data sharing. In parallel, the team has developed quantitative One Health indices and a forthcoming web tool to help cities, villages, and states assess One Health performance and optimise resource allocation across sectors.



Unless we do unbiased analysis using the metagenomic approach, we will not know what is happening until the damage is done.



Data and surveillance for Crisis Preparedness and Response



Dr. Pranay Verma

National Center for Disease Control, India

Dr. Pranay Verma outlined the work of the Integrated Disease Surveillance Programme (IDSP) at the National Centre for Disease Control, which monitors epidemic-prone communicable diseases through a decentralised yet integrated system from district to national level. Its core mandates include integrating surveillance data, training field and surveillance staff, using IT/ICT for rapid transmission and analysis, and strengthening public health laboratories. Data flow into the Integrated Health Information Platform (IHIP) from more than 200,000 reporting units, from Ayushman Arogya Mandirs to medical colleges, through symptom-based, presumptive/clinician-diagnosed, and laboratory-confirmed forms. These near-real-time, case-based, geo-tagged entries are visualised through GIS heat maps, spot maps, and dashboards, enabling epidemiologists and programme managers to detect clusters early and coordinate responses.

Dr. Pranay explained that during an unusual rise in diseases such as chikungunya, IHIP allows users to move from the national trend to state, district, and local hotspots, while generating automated analytic reports for policymakers. Alongside indicator-based surveillance for about 55 conditions with predefined alert thresholds, a community reporting tool now allows the public to submit suspected outbreak events, with OTP verification and optional photos or news clips, without logging into IHIP. These community alerts are treated with the same weight as

medical officer alerts and support real-time event-based surveillance for unusual or unexpected health events, including signals from facilities, laboratories, media, and the public.

He also described a continuous media-scanning and verification system that uses web crawlers and AI filters to monitor print and electronic news, sort and translate reports from multiple Indian languages, and send relevant alerts to IDSP for validation. District surveillance units then discard rumours or escalate genuine events into outbreaks, which are tracked on a real-time dashboard showing status and field actions. Outbreak detection follows a defined pathway: signals from thresholds, media, and community reports are screened, verified, and escalated to sub-district, district, state RRT, or national RRT and Public Health Emergency Operations Centre levels for major events such as Nipah.

Preparedness depends on monitoring timeliness and completeness, real-time surveillance, and a One Health approach with partners in animal husbandry, wildlife, FSSAI, forests, and allied sectors. Joint training, cross-training, simulation exercises, and mock drills such as “Vishanu Yudh Abhyaas” test logistics, stocks, and field readiness, while periodic stock-taking ensures essential supplies are available. Response is organised through district, state, and national Rapid

Response Teams and the National Joint Outbreak Response Team, coordinated through NCDC's Public Health Emergency Operations Centre and linked state EOCs. Surveillance data feed into district dashboards, while public health–disaster management linkages and capacity building of medical officers, ANMs, and field staff support post-disaster outbreak management.



The closer we go to the field, the better data we get. Data has to be decentralized and integrated for the overall response to be coordinated.



Resilient Health Infrastructure



Ms. Ranjini Mukherjee

Coalition for Disaster Resilient Infrastructure

Ms. Ranjini Mukherjee shared that the Coalition for Disaster Resilient Infrastructure (CDRI) works to position resilient health infrastructure as central to protecting lives, sustaining economies, and maintaining essential services during disasters. She noted that disasters damage health facilities and disrupt the lifelines they depend on, including power, water, wastewater, and telecommunications, while simultaneously overwhelming hospital operations and interrupting routine and emergency care. Citing World Bank estimates, she highlighted that climate-related health impacts may cause USD 12.5 trillion in economic losses and 14.5 million excess deaths by 2050. CDRI's Global Infrastructure Risk Model and Resilience Index (GIRI) estimates over USD 700 billion in expected losses to health infrastructure from six major hazards, with nearly 65% linked to floods, followed by cyclones and earthquakes.

She explained that resilience is the capacity to absorb, respond, and recover, with faster performance across all three generating a "resilience dividend." In collaboration with WHO India, CDRI developed and piloted a Resilient Health Infrastructure Framework in Sikkim, which is now being tested and refined with member countries across diverse hazard contexts.

CDRI's Resilient Health Infrastructure Framework focuses on three dimensions: hospital buildings,

hospital operations, and the interconnected critical infrastructure systems on which hospitals depend. It clarifies dependencies, defines the roles of health and infrastructure professionals, embeds an asset life-cycle perspective from design to maintenance, and supports capacity building, risk-informed policy, investment, and planning. Ms. Ranjini emphasised that health system resilience requires sustained financing, with risk-informed strategies embedded in public financial management frameworks at national and sub-national levels.

In Sikkim, the project focused on six core activities, including development of a model hospital disaster management plan and capacity building of government officials to design and implement such plans. Officials were trained to conduct rapid hospital safety assessments and identify what is needed to keep hospitals functional during and after disasters. Recognising that resilience cannot be delivered by the health department alone, the project adopted a whole-of-government, multisectoral approach, bringing together health, power, water, telecom, disaster management, and revenue departments for joint training, coordination exercises, and mock drills.

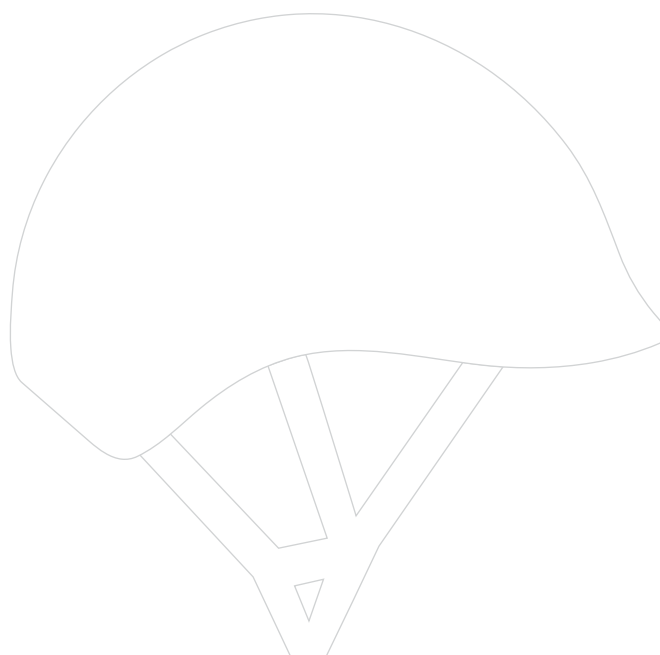
CDRI is also applying elements of the framework in countries such as Haiti, Honduras, the Marshall Islands, and Nepal to support facility



assessments, resilience roadmaps, backup systems, data-driven planning, and digital platforms for climate-resilient health infrastructure. Economic resilience cannot be achieved without resilient health systems, and disaster risk reduction requires investment in disaster-resilient infrastructure.



Building resilience of health infrastructure is no longer a peripheral concern; it is central to safeguarding lives, sustaining economies, and ensuring continuity of essential services.



Implementation of One Health in India



Prof. Utpal Tatu
Indian Institute of Science

Prof. Utpal Tatu shared his journey as a One Health researcher, which began with laboratory-based work on zoonotic and neglected infectious diseases and later expanded into community-oriented, systems-level interventions. Over the years, his research involved working on diseases such as rabies, coronaviruses in animals, protozoal and bacterial infections, and antimicrobial resistance, working closely with veterinary and medical networks to generate reference genomes, contribute to national sewage-surveillance efforts, and develop diagnostic tools such as an RT-PCR kit for COVID-19. Alongside this, they have trained students and scientists, strengthening human resource capacity in infectious disease and AMR research.

Prof. Tatu detailed his current work on implementing and scaling a “One Health model village” approach in India that operationalizes the human, animal, and environment interface at the grassroots. They map and link existing pillars in selected villages—primary health centres, veterinary services, poultry and piggery units, common water bodies, sewage outlets, and smallholder farms, to create integrated surveillance of human and animal diseases, water and environmental contamination, vectors, antimicrobial resistance, and pesticide use, and then visualize this using a digital dashboard as an early “digital twin” of a village. Starting with a pilot village in southern India, they are now working with state health directorates in Karnataka, Gujarat, Maharashtra,

Goa, and partners in countries such as Nepal, Bangladesh, Japan, and several African settings to replicate and adapt this blueprint, with the long-term goal of fragmenting national-level One Health challenges into manageable village-level units that can meaningfully support government efforts. It is essential to promote village-level, data-driven One Health implementation as a practical complement to national programmers, arguing that India’s and the world’s complex One Health challenges can only be addressed effectively by breaking them down into manageable, locally grounded units.



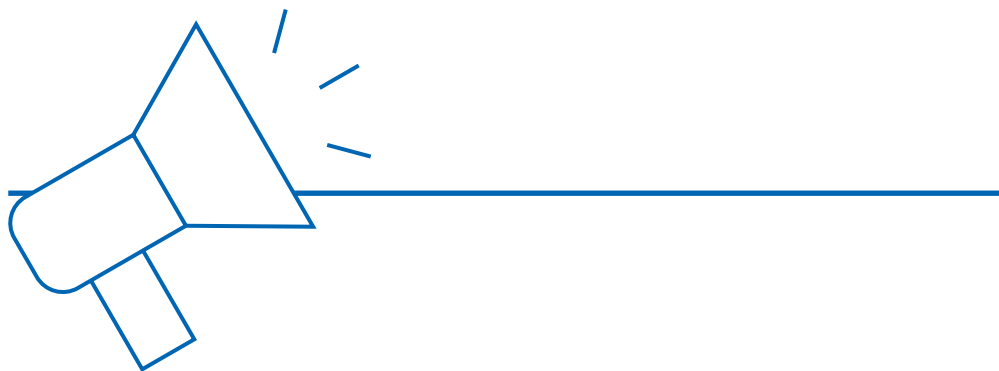
We cannot address One Health challenges only at the national level; we have to fragment them to a small village level and interconnect existing systems available in the village setting.





Key Session Takeaways

1. *Preparedness must go beyond pandemics.*
Health systems must be ready for overlapping crises, including climate events, conflict, AMR, infectious diseases, NCDs, and humanitarian emergencies.
2. *Resilience must be built before crises, not during them.*
Preparedness should be embedded in routine health systems through sustained governance, financing, workforce capacity, infrastructure, and surveillance.
3. *Public health governance needs stronger coordination.*
Countries need unified, nationally led mechanisms that bring together health, animal health, environment, food, transport, disaster management, infrastructure, and social sectors.
4. *Essential Public Health Functions offer a practical foundation.*
The EPHF framework can help countries strengthen stewardship, accountability, equity, service delivery, and emergency management as part of one coherent public health system.
5. *Surveillance must be real-time, decentralised, and actionable.*
Platforms such as IHIP, IDSP dashboards, media scanning, community reporting, and GIS mapping show how data can support early detection and faster response.
6. *Environmental surveillance is now central to preparedness.*
Wastewater surveillance, metagenomics, and AMR monitoring can detect silent trends, emerging pathogens, and resistance patterns before clinical systems alone can.
7. *One Health must move from concept to implementation.*
National frameworks must be matched by local models that connect human health, animal health, water, environment, farms, vectors, and community-level data.
8. *Health infrastructure resilience is essential to health security.*
Hospitals must remain functional during disasters, with reliable power, water, wastewater, telecom, emergency plans, and coordinated support from allied sectors.
9. *Preparedness requires sustained financing and capacity building.*
Short-term, reactive funding is insufficient. Countries need long-term investment in laboratories, rapid response teams, training, simulation exercises, data systems, and resilient infrastructure.
10. *The way forward is both top-down and bottom-up.*
Global frameworks must translate into national systems, while local and village-level models ensure preparedness is grounded in real community risks and realities.



Call to Action

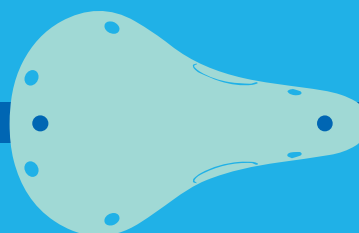
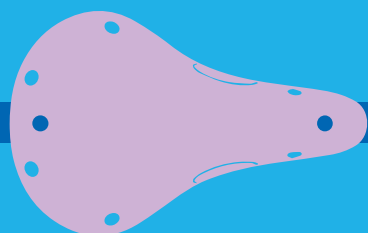
The session reinforced that preparedness can no longer be approached in silos. Instead, it requires a cohesive, whole-of-system approach grounded in strong governance, integrated surveillance, and resilient health infrastructure. The emphasis on Essential Public Health Functions, intersectoral coordination, and nationally led frameworks highlights the need to move beyond reactive, fragmented responses toward sustained, adaptive systems that can respond to diverse and evolving risks. Valuable insights were gained from the session's compelling examples of innovation and implementation, including environmental and wastewater surveillance integrated within One Health frameworks, as well as real-time, data-driven platforms such as IDSP that facilitate early detection and timely response.

The importance of translating data into actionable insights, strengthening community and event-based surveillance, and embedding preparedness into routine systems was strongly underscored. At the same time, investments in resilient infrastructure and financing mechanisms are critical to ensure that health systems can absorb, respond, and recover effectively from shocks. Finally, the discussions on operationalizing One Health—from national architectures to village-level models—remind us that resilience must be built both top-down and bottom-up. The path forward lies in strengthening collaboration across sectors, aligning global frameworks with local realities, and ensuring that preparedness efforts are inclusive, equitable, and sustainable.



Thematic Session 02

Prevention, Health Care Provisioning: Care Coordination for Resilient and Responsive Health Systems



SPEAKERS' DETAILS

Dr. N. Krishna Reddy

CEO, ACCESS Health International
Moderator

Dr. Rajan N. Khobragade, IAS

Additional Chief Secretary,
Department of Health & Family Welfare,
Government of Kerala
Panelist

Dr. Santhosh Mathew

Country Lead, Public Policy and Finance,
Gates Foundation
Panelist

Dr. Shalini Singh

CEO,
Arohan Partners for Advancing Health Systems
Presenter

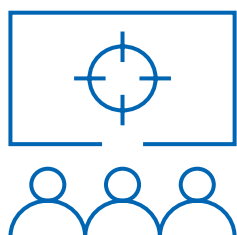
Dr. Abha Mehndiratta

Faculty & Improvement Advisor,
Institute for Healthcare Improvement
Panelist

Dr. Sarang Deo (Virtual)

Deputy Dean, Faculty & Research,
Indian School of Business
Panelist

Context & Session Objectives



As health systems continue to expand access and improve financial protection, a persistent challenge remains: improvements in access and affordability have not translated into proportional gains in health outcomes. This gap is increasingly attributed to fragmentation across the continuum of care, where patients encounter disconnected services, weak referral systems, and inconsistent follow-up across providers and facilities.

In India, this fragmentation is further compounded by the coexistence of multiple delivery channels, public and private providers, formal and informal systems, and varying levels of care, which patients must navigate largely on their own. The absence of structured coordination mechanisms leads to inefficiencies such as duplication of services, delayed diagnoses, irrational treatment pathways, and increased out-of-pocket expenditure.

Against this backdrop, the session positioned care coordination as a foundational pillar of resilient and responsive health systems, enabling seamless patient journeys, improving quality of care, and enhancing system efficiency. It emphasized that coordination is not an isolated intervention but a cross-cutting function that integrates people, processes, and technology across the system.

The session aimed to:

- Examine systemic barriers to effective care coordination in India
- Present evidence and real-world examples demonstrating the impact of coordinated care
- Explore the role of governance, community engagement, and digital innovation
- Identify scalable, resource-efficient approaches to strengthening coordination

Highlights from Individual Presentations/Talks

Dr. Shalini Singh: Care Coordination as the Foundation of Continuum of Care



Dr. Shalini Singh

Arohan - Partners for Advancing Health Systems

Dr. Shalini Singh conceptualized care coordination as the **“underlying code” of a health system**, drawing a parallel to DNA—fundamental, yet often unnoticed. She emphasized that while continuity of care reflects how patients experience their journey, **care coordination is the mechanism that enables that continuity across time, providers, and settings.**

She highlighted that despite multiple policy initiatives and programmatic efforts, **fragmentation remains deeply embedded in India’s health system.** Patients frequently experience disjointed care pathways, where diagnostics, consultations, and treatment services operate in silos. Communication gaps between providers and across levels of care further exacerbate these challenges.

Particularly in the context of non-communicable diseases, she noted that **continuity of care is weak**, with patients often lost to follow-up due to the absence of proactive outreach mechanisms. Treatment adherence remains largely dependent on patient initiative, rather than being systematically supported by the health system.

Dr. Singh also pointed to evidence demonstrating that **effective care coordination can significantly reduce preventable mortality, improve early diagnosis, and enhance treatment adherence.** She shared examples of digitally enabled coordination models—including emergency care networks and tele-mentoring platforms—that have successfully improved outcomes by linking primary, secondary, and tertiary care.



Care coordination is like DNA... an underlying code for a well-functioning health system. Without it, even the best-designed health programs fail to deliver their intended outcomes.



Highlights from Panel Discussion

Fragmentation and the Reality of Patient Navigation



The panel discussion began by grounding the conversation in the lived experiences of patients navigating the health system. It was widely acknowledged that **patients often function as their own care coordinators**, making decisions based on informal advice rather than structured guidance.

Dr. Santhosh Mathew illustrated this through a compelling real-world example of a patient who underwent multiple referrals and extensive diagnostic testing for a condition that ultimately required a simple intervention. This case highlighted how a **lack of coordination not only increases costs and delays care but also places an unnecessary burden on both patients and the system.**

He further emphasized that such inefficiencies lead to a “multiplication effect,” where patients unnecessarily move across multiple facilities, contributing to overcrowding and resource strain, particularly at higher-level hospitals.

Dr. Sarang Deo reinforced this by highlighting that **referral systems often fail not due to the absence of intent, but due to a lack of operational integration.** For instance, when referral facilities are not linked through appointment systems, patients are unlikely to follow through, resulting in breakdowns in the care pathway.



In the absence of coordination and observability, patient journeys are shaped by chance, convenience, and informal advice, not by system design.

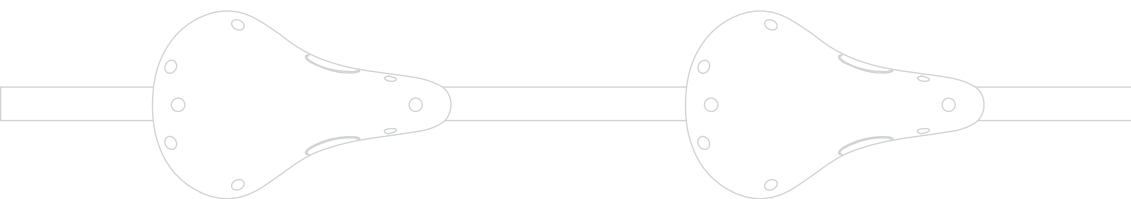
Dr. Santhosh Mathew





The real transformation in healthcare will come not from doing more, but from doing things together: coordinated, connected, and patient-centred.

Dr. N. Krishna Reddy



System Design and Care Coordination: Lessons from Kerala



Dr. Rajan N. Khobragade

Additional Chief Secretary,
Government of Kerala, India

Dr. Rajan Khobragade presented Kerala's experience as a practical demonstration of how care coordination can be institutionalized within a public health system. Drawing on lessons from the COVID-19 pandemic, he described how the state leveraged its experience in **real-time data tracking, load balancing, and multi-level coordination** to redesign care pathways during normal conditions.

A key component of this approach was the **mapping of patient journeys**, identifying how patients move across different levels of care and where breakdowns occur. Based on this, the state introduced structured referral pathways, ensuring that patients are guided to appropriate levels of care based on need.

Digital health infrastructure played a critical role, particularly through the implementation of **unique health IDs and electronic health records**, which enabled continuity of information across facilities. Additionally, **appointment-based referral systems** were introduced to reduce uncertainty and improve patient flow.

Equally important was the emphasis on **community engagement**, ensuring that patients are aware of appropriate care pathways and do not bypass primary care unnecessarily. The model was piloted in selected districts and gradually scaled, demonstrating that **system-wide improvements can be achieved through iterative, evidence-based approaches**.

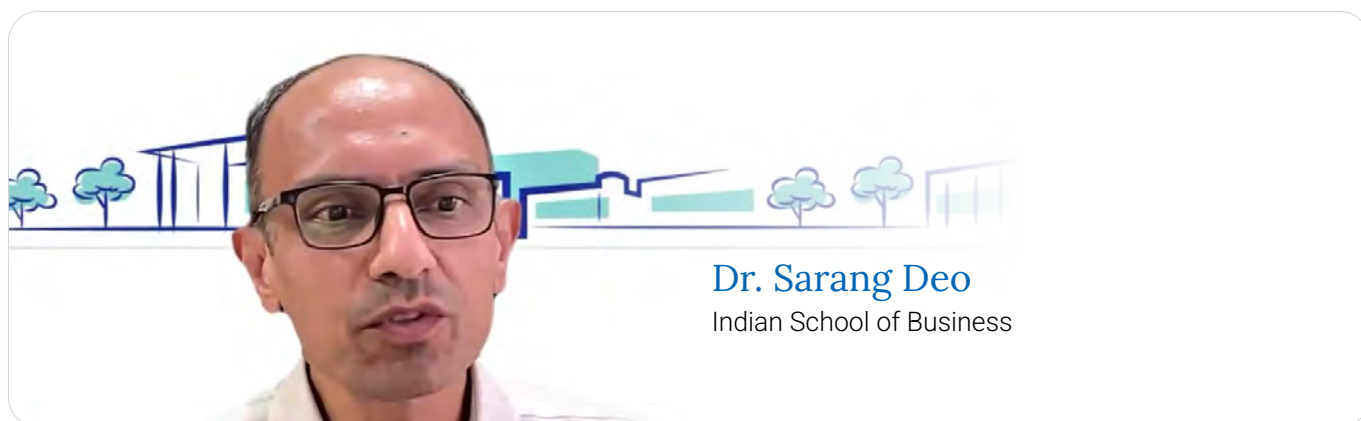


Kerala's care coordination model begins by studying the patient pathway, strengthening referral links, and using e-health to ensure information flows across the system.

Dr. Rajan N. Khobragade



Technology as an Enabler of Coordination and Accountability



Dr. Sarang Deo

Indian School of Business

The panel explored the transformative potential of digital technologies in enabling care coordination. Emerging tools such as **AI-driven triaging systems, adaptive clinical decision support, and real-time data capture** were identified as critical enablers of more efficient and standardized care pathways.

Dr. Mathew highlighted how such technologies can help democratize clinical decision-making, reducing variability in care and ensuring that patients receive appropriate guidance at the first point of contact. He also emphasized the importance of capturing and analysing patient interactions, which can improve accountability and enable continuous system improvement.

At the same time, panelists cautioned against over-reliance on technology, noting that digital tools must be embedded within well-designed processes and supported by strong governance frameworks. Without this, technology risks becoming an additional layer of complexity rather than a solution.

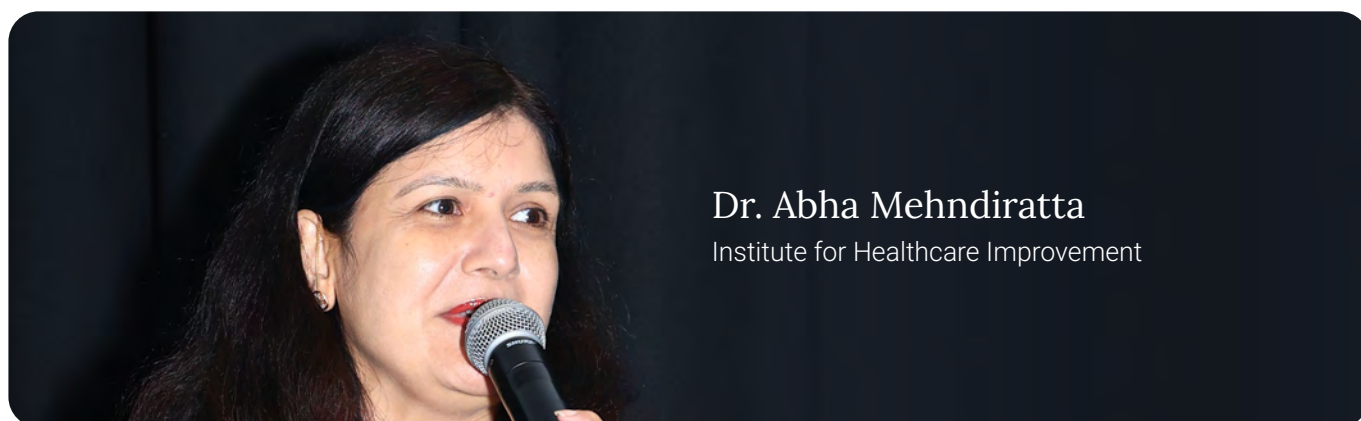


Technology does not create coordination; it enables coordination when systems are designed to use it effectively.

Dr. Sarang Deo



Process Redesign and Quality Improvement as Key Enablers



Dr. Abha Mehndiratta

Institute for Healthcare Improvement

Dr. Abha Mehndiratta brought a strong operational lens to the discussion, demonstrating how **care coordination challenges can often be addressed through process improvements rather than additional resources.**

Through detailed examples from hospital settings, she illustrated how patient flow inefficiencies—such as overcrowding in outpatient departments—can be addressed through **data-driven planning and better scheduling practices.** By analysing patient arrival patterns and redistributing appointments, hospitals were able to significantly reduce waiting times and improve patient experience.

She also highlighted the importance of **clear communication and role definition across teams,** particularly in managing complex processes such as insurance approvals. Small changes—such as early identification of patients requiring insurance processing—can prevent delays and reduce patient dissatisfaction.

Importantly, she emphasized that **quality improvement must be institutionalized as a continuous process,** with frontline staff empowered to identify problems and test solutions.



Most care coordination problems are not resource problems. They are simply design problems.

Dr. Abha Mehndiratta



Scaling Care Coordination: Building Capacity and Systems Thinking

The final segment of the discussion focused on the challenge of scaling care coordination efforts across diverse health systems. Panelists emphasized that **coordination must be embedded as a core system function**, rather than being treated as an additional layer.

This requires building competencies in **management, quality improvement, and systems thinking** across all levels of the health workforce. Training must extend beyond clinical skills to include the ability to design, manage, and improve care processes.

Measurement and accountability were also highlighted as critical enablers. Panelists stressed the need to **define and track metrics related to patient flow, outcomes, and experience**, ensuring that coordination efforts are continuously monitored and improved.

There was also recognition of the need to **integrate private sector providers into coordinated care pathways**, particularly in contexts where patients frequently move between public and private systems.



If care coordination is not measured, it will not be managed—and if it is not managed, it will not improve.

Dr. Santhosh Matthew

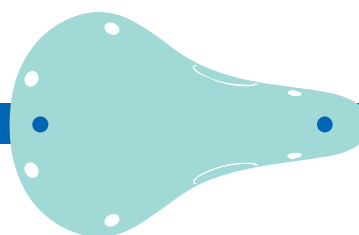
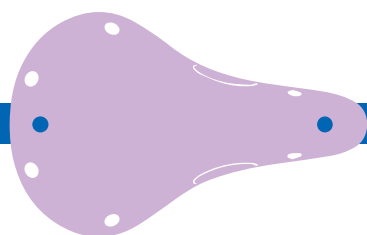


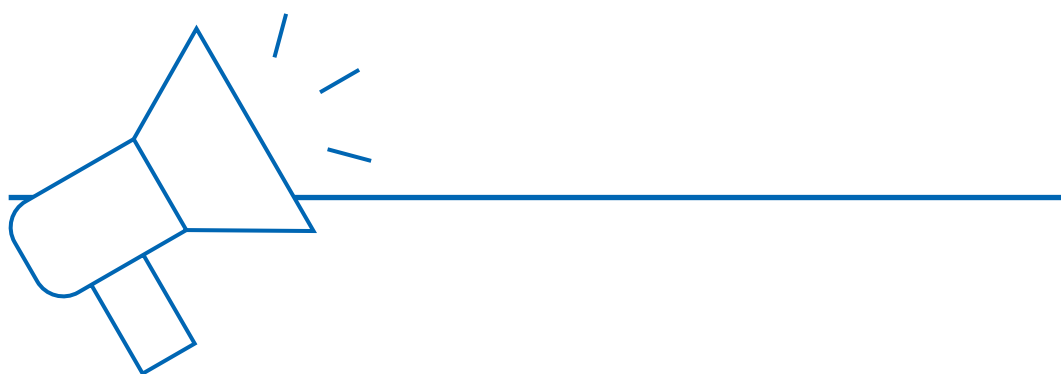


Key Session Takeaways

The session reinforced that resilient health systems depend not only on expanded services, but on the ability to organize, connect, and guide care across providers, facilities, sectors, and communities. The key takeaways include:

1. *Care coordination is central to bridging the gap between access and outcomes.*
2. *Fragmentation across the continuum of care remains a critical challenge.*
3. *Patient navigation must be actively enabled through structured pathways.*
4. *Digital technologies can significantly enhance coordination when integrated effectively.*
5. *Community engagement is essential for appropriate care-seeking behaviour.*
6. *Process redesign can address many coordination challenges without additional resources.*
7. *Quality improvement must be embedded across all levels of the health system.*
8. *Public-private integration is critical for system-wide coordination.*
9. *Measurement and accountability are key to scaling coordination efforts.*
10. *Care coordination represents a “triple win” for patients, providers, and systems.*





Call to Action

Dr. N. Krishna Reddy concluded the session by emphasizing that the future of health systems lies not in expanding services alone, but in connecting them effectively.

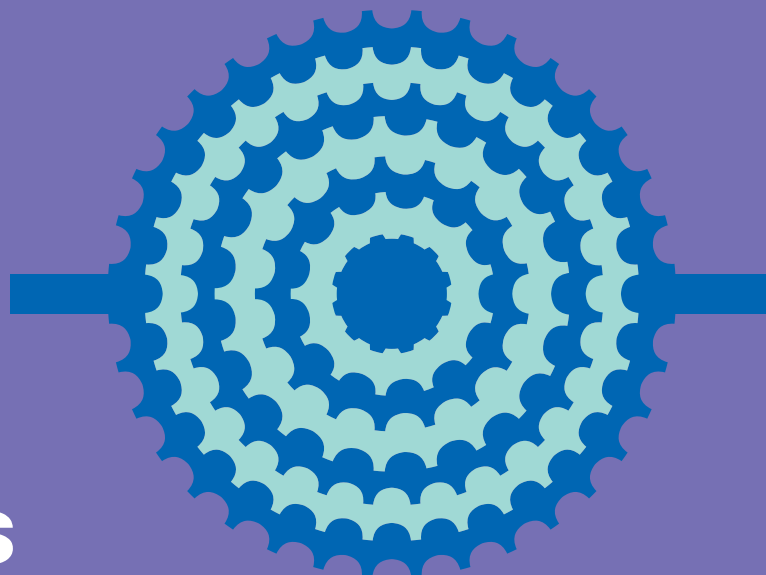
He called for a shift from fragmented, reactive models to integrated, patient-centred systems that proactively manage care journeys. This requires aligning policy, strengthening processes, leveraging technology, and building a culture of continuous learning.

The session underscored that resilient and responsive health systems will be those that are able to coordinate care seamlessly across levels, providers, and time, ensuring that patients receive the right care at the right place and at the right time.



Thematic Session 03

From Volume to Value: Strategic Purchasing for Quality and Outcomes



SPEAKERS' DETAILS

Ms. Himani Sethi

Global Director of Programs, ACCESS Health,
New Delhi, India

Moderator

Dr. Thanasak Thumbuntu

Director, National Health Security Office Region 13,
Thailand

Session Keynote

Dr. Pankaj Arora

Director, National Health Authority, India

Presenter

Dr. S. Vineeth, IAS

Medical Doctor;
Head, Tamil Nadu Health Systems Project

Panelist

Ms. Archana Verma, IAS

Chief Executive Officer,
State Health Agency (SAACHIS), Uttar Pradesh

Panelist

Dr. Mahesh M.G.

Deputy Director,
Suvarna Arogya Suraksha Trust, Karnataka

Panelist

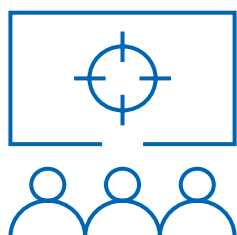
Dr. Sudha Chandrashekhar

Medical Doctor and Health Economist
(formerly with National Health Authority)

Panelist

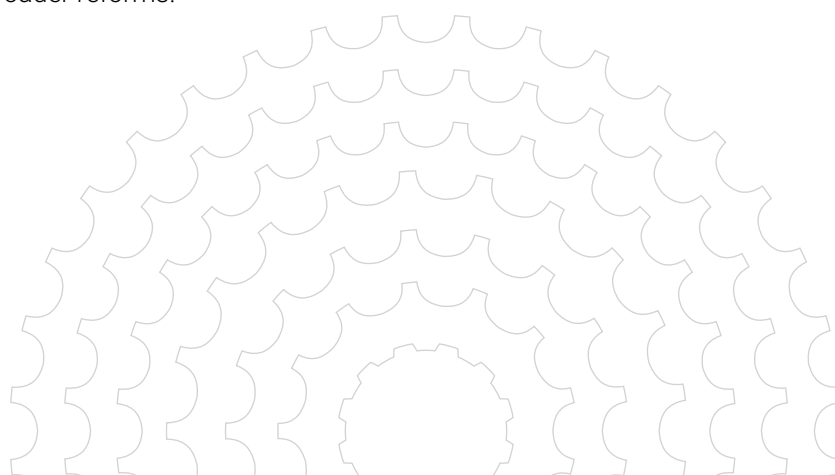


Context & Session Objectives



The session explored strategic purchasing as the practical link among financing, service delivery, and governance. It showed how purchasers align resources with providers to strengthen health systems and deliver measurable improvements in quality and health outcomes. Speakers examined the shift from payments based on volume and utilization to payments based on value. They drew lessons from Thailand's long experience with universal coverage and from India's national and state-level implementation of the Aayushman Bharat program.

The program has created a nationwide network of health and wellness centres and provides hospital coverage to more than 550 million people through over 30,000 empaneled facilities. Participants identified ways to use this purchasing power to influence provider behavior, introduce cost discipline, integrate public health priorities, and build a seamless continuum of care. The session combined presentations and reflections to highlight concrete actions that states can take now. It emphasized starting with care pathways, testing incentives, and measuring outcomes on a limited scale before broader reforms.



Highlights from Individual Presentations/Talks

Dr. Thanasak Thumbuntu – Thailand's Journey: Transitioning from Volume to Value in Strategic Purchasing



Dr. Thanasak Thumbuntu
National Health Security Office, Thailand

Dr. Thanasak Thumbuntu opened the session with a clear principle. Health spending alone does not produce better outcomes. He presented data that compares Thailand and Malaysia, which spend around 5 percent of gross domestic product on health and achieve life expectancy, immunization rates, and service coverage comparable to the United States, which spends nearly 17 percent. Thailand reduced catastrophic health expenditure to 0.2 percent, while the United States remains at around 7 percent.

Dr. Thanasak explained the architecture of Thailand's universal coverage. Three schemes cover the population. The Universal Coverage Scheme, managed by the National Health Security Office, serves roughly 70 percent of citizens through a closed-ended budget, primary care gatekeeping, age-adjusted capitation for outpatient services, and single diagnosis-related groups with global budgets for inpatient care. This approach delivers the same comprehensive benefit package at roughly one-fourth the per-capita cost of the open-ended fee-for-service model used in the civil servant scheme.

He described the payment spectrum in detail. Fee-for-service places risk on the payer and encourages over-provision. Capitation shifts risk to providers and promotes cost-conscious decisions such as generic drug use and rational prescribing. Diagnosis-related groups sit in the middle and balance risk by paying a fixed rate for similar clinical conditions. Thailand allocates 29 percent of its budget to capitation, 28 percent to diagnosis-related groups, 35 percent to targeted fee schedules for high-priority services, and 8 percent to prevention programs.

Dr. Thanasak detailed how capitation works in practice. The National Health Security Office calculates rates from real cost data and adjusts them annually by about 6 percent to reflect benefit expansions, inflation, and utilization changes. The office pools risk across large populations of at least 50,000 people and applies risk adjustment based on age and a composite morbidity index. In Bangkok, where private clinics serve smaller panels, the office plans to expand differential capitation to 100 percent of the outpatient budget next year.

He also outlined the safeguards required for capitation. These include a 24-hour patient call centre, flexible registration so patients can choose clinics, and contract monitoring that leads to warnings or termination for cream skimming. For diagnosis-related groups, Thailand uses version 6.2 with 1,500 groups. Hospitals receive payment based on relative weight multiplied by a regional base rate and a rural adjustment factor known as the K value. A regional global budget prevents upcoding by diluting payments if claims rise across the board.

Dr. Thanasak shared examples of how the system steers behavior. The office assigns higher relative weights to one-day surgery and minimally invasive procedures. This change reduced the average length of stay from 3.9 days to less than one day. For high-cost services such as cataract surgery, the office shifted from diagnosis-related groups to fee schedules and used central procurement to lower lens costs dramatically. Utilization rose from 40,000 to 140,000 procedures.

He concluded with Thailand's move toward value-based care. The office selected asthma and chronic obstructive pulmonary disease because these conditions are high-volume, high-cost, and follow clear treatment pathways. The program began with bonus payments for clinics that improved control rates and reduced admissions. It will incorporate patient-reported outcome measures in the second year and launch full outcome-linked payments in 2027. All calculations use existing data, so providers face no additional reporting burden.



How you pay determines performance as much as how much you spend.

Dr. Thanasak Thumbuntu



Dr. Pankaj Arora – India's Ayushman Bharat Program and the Shift to Value-Based Care

Dr. Pankaj Arora

National Health Authority, Govt. of India



Dr. Pankaj Arora placed the discussion in the Indian context. The country has transformed access to care in eight years. The Aayushman Bharat program established 180,000 health and wellness centres that bring primary services to the doorstep. It introduced hospital coverage of 500,000 rupees per family and created a network of more than 30,000 public and private facilities. The Ayushman Bharat Digital Mission now enables integrated health records that travel with the patient.

Dr. Arora explained that the National Health Authority first focused on benefit package design, empanelment, and utilization. It has delivered more than 110 million treatments at an average cost of 13,000 rupees per admission. The program now covers more than 55 percent of the population and has extended eligibility to health workers and the elderly. He described the 2022 value-based care policy. The policy begins with incentives rather than full outcome payments. It rewards hospitals that achieve certification and meet quality standards. It tracks patient satisfaction and grievance redressal. Package rates vary by city tier to reflect differences in infrastructure and human resource costs. The authority revises packages regularly and pays hospitals within seven to ten days to maintain cash flow.

Dr. Arora noted that case-based payments already curb some line-item fraud and upcoding. Public facilities create an anchoring effect that keeps private prices reasonable. He emphasized the next challenge. The

system must confirm that patients leave facilities healthier than when they arrived. Readmission rates and patient-reported experience have now become central metrics. The authority studies counterfactual scenarios to understand what costs would have been without the program and uses public procurement to lower prices on selected procedures.

He highlighted the importance of digital integration. When records move seamlessly between public and private providers, care coordination improves, and outcome measurement becomes possible. Dr. Arora closed by noting that India's scale is twenty times larger than Thailand's, yet the foundational elements for value-based purchasing already exist.



Instead of focusing only on processes, we must focus on outcomes that matter to patients – their ability to live healthier and fuller lives.

Dr. Pankaj Arora



Dr. S Vineeth – Tamil Nadu's Governance and Procurement Practices for Strategic Purchasing

Dr. S. Vineeth

Tamil Nadu Health Systems Project, India



Dr. S. Vineeth described how Tamil Nadu strengthens purchasing power through transparent governance and procurement. The Tamil Nadu Medical Services Corporation publishes all rate contracts openly on its website. Other states and private providers use these rates as a reference during their own tenders. This openness prevents inflated bids and reduces the risk of vigilance inquiries.

He explained the anchoring effect of government facilities. Private providers know patients can choose public hospitals, so they moderate their charges. The state has moved to seven-year comprehensive maintenance contracts for equipment. This approach ensures devices remain functional through their useful life without repeated renegotiation. Tamil Nadu also uses turnkey procurement for complex installations to avoid disputes among civil, electrical, and medical teams.

Dr. Vineeth shared how the state analyzes package rates across India. Officials use software and fuzzy logic to compare rates and identify anomalies. They correct outliers in the next tender cycle. For high-cost procedures such as liver transplants, renal transplants, and dialysis, the state maintains separate funds and pays on the basis of actual invoice cost rather than billed charges. This marginal costing principle keeps total expenditure lower than in states that reimburse billed amounts.

He noted that timely payments and transparent processes give providers confidence. Hospitals receive funds regardless of minor audit issues, provided documentation is complete. Dr. Vineeth stressed that these practices do not require new resources. They rely on discipline, openness, and the strategic use of public facilities to discipline the market.



The presence of government hospitals creates an anchoring effect. It gives the patient another option and helps balance the system.

Dr. S. Vineeth



Ms. Archana Verma – Uttar Pradesh's Care Coordination and Convergence Model



Ms. Archana Verma

SACHIS, Govt. of Uttar Pradesh, India

Ms. Archana Verma described implementation on a massive scale. Uttar Pradesh covers nearly 10 crore beneficiaries and has processed more than 90 lakh hospitalizations. The state health agency maintains more than 3,000 private and 3,000 government facilities.

She explained the citizen empowerment tools launched in the past year. A mobile application lists empaneled hospitals and their specialties. A chatbot answers questions from beneficiaries and providers. The 24-hour call centre books zero-cost or subsidized outpatient appointments and tracks whether those appointments convert to admissions. Early data show that women and elderly citizens book most appointments.

Ms. Verma focused on care coordination. The state links primary care with hospital services so patients receive free medicines and referrals before admission. This reduces unnecessary inpatient stays for conditions such as fever or dehydration. The agency analyzes claims to identify potential upcoding and works with district magistrates to enforce proper pathways.

She detailed convergence with the National Health Mission. The state has produced guidance books for community health workers that list packages available for neonatal care, congenital conditions, and early child interventions. Frontline workers now receive training

on ethical referrals when public facilities are overburdened. Data sharing between the insurance program and the public health system remains a priority so utilization patterns align across sectors.

Ms. Verma emphasized continuous quality monitoring. Initial empanelment focused on expanding the network. The state now audits facilities regularly to prevent slippage after certification. She noted that patient satisfaction after discharge is the ultimate test of value.



Through the citizen application, beneficiaries can see which hospitals are empaneled and what specialties are available. When you give someone access and information, the person becomes very powerful.

Ms. Archana Verma



Dr. Mahesh M.G. – Karnataka's Gatekeeping Mechanism

Dr. Mahesh M.G.

SAST, Govt. of Karnataka, India



Dr. Mahesh M.G. presented Karnataka's gatekeeping system, introduced in 2022. The state categorizes procedures into four groups: simple secondary, complex secondary, tertiary, and emergency. Simple secondary procedures remain reserved for public facilities. Complex secondary and tertiary procedures move to private providers only after public assessment confirms the need. Emergency cases require no referral.

He explained that the system strengthens the public delivery platform first. Public facilities receive support to handle the reserved procedures. Private providers accept referrals only for higher-complexity cases. This arrangement improves accountability in both sectors. It ensures that public resources serve the patients who need them most and prevent unnecessary movement to private care.

Dr. Mahesh noted that the approach aligns with the broader goal of strategic purchasing. It channels demand through the public system where possible and uses private capacity only where it adds clear value. The state monitors referral patterns to refine the lists and maintain balance.



Karnataka's gatekeeping mechanism strengthens the public system first, while referring only those patients who need complex secondary or tertiary care to the private sector.

Dr. Mahesh M.G.



Dr. Sudha Chandrashekhar – Pilot Experience with Diagnosis-Related Groups in India



Dr. Sudha Chandrasekhar

Former ED, National Health Authority, Govt. of India

Dr. Sudha Chandrashekhar described the National Health Authority's diagnosis-related groups pilot. The authority began with the nationwide rollout of the International Classification of Diseases version 11 coding. Five states volunteered, and roughly 40 hospitals participated. The pilot tested operational feasibility rather than immediate policy change.

She explained the key requirements for diagnosis-related groups. Accurate primary and secondary diagnosis coding is essential. Hospitals must document comorbidities so case-mix adjustment reflects true complexity. The pilot revealed that data entry staff need support from admitting doctors. Ready reckons for common conditions in single-specialty hospitals improve accuracy.

Dr. Chandrashekhar noted that payment under diagnosis-related groups differs from flat case-based rates. Hospitals that treat more complex cases receive higher adjusted payments. This removes the incentive to shift difficult cases to public facilities after initial treatment. The pilot also confirmed the need for standard treatment guidelines and clinical care pathways to maintain quality.

She emphasized that medical audits serve two purposes. They detect fraud and identify systemic gaps that affect care quality. When combined with global budgets, diagnosis-related groups can control costs while encouraging efficiency. The authority continues to analyze results from completed pilots in two states and plans further adjustments based on field feedback.



DRG-based payment does not stop at paying for conditions. It must also account for readmissions and complications when quality of care is not proper.

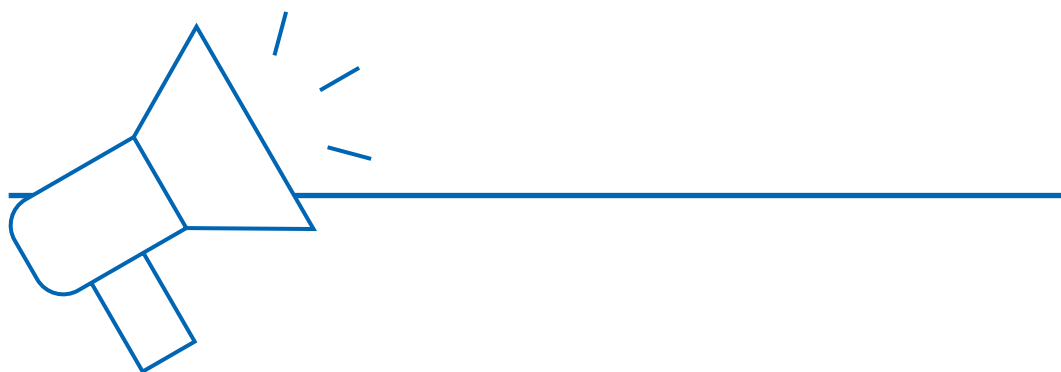
Dr. Sudha Chandrasekhar





Key Session Takeaways

1. *Strategic purchasing requires blended payment mechanisms.*
No single payment method can address all health system goals. A mix of capitation, case-based payments, diagnosis-related groups, fee schedules, and incentives can help balance cost control, provider accountability, service access, and quality improvement.
2. *Payment reforms must anticipate provider behaviour.*
Each payment method carries risks, including under-provision, over-provision, upcoding, or unnecessary admissions. These risks can be reduced through risk adjustment, global budgets, accurate coding, claims scrutiny, and patient safeguards.
3. *Gatekeeping and referral systems are central to efficient care.*
Strong primary care gatekeeping and structured referral pathways can ensure that simple conditions are managed at the appropriate level, while complex and tertiary cases are directed to higher-level or private providers only when needed.
4. *Public systems must be strengthened before purchasing from private providers.*
Strategic purchasing should not bypass the public system. Public facilities can manage essential and routine services, anchor prices, create market discipline, and ensure that private capacity is used where it adds clear value.
5. *Care coordination and convergence reduce fragmentation.*
Linking community workers, primary care centres, hospitals, insurance schemes, and public health programs can help patients move through the system more appropriately. Convergence between insurance programs and public health services is essential to avoid silos and improve equity.
6. *Digital systems can enable better coordination and outcome tracking.*
Interoperable records, appointment systems, claims platforms, dashboards, and data-sharing mechanisms can support continuity of care, reduce duplication, track referrals and admissions, and make outcome measurement more routine across public and private providers.
7. *Transparent procurement can turn purchasing power into cost discipline.*
Open rate contracts, pooled procurement, long-term maintenance agreements, and standardised pricing can reduce costs, improve predictability, and improve access to priority services without necessarily requiring additional funding.
8. *Value-based care should begin with focused, practical pilots.*
The transition from volume to value is best approached incrementally. States can begin with high-volume or high-burden conditions, simple indicators such as readmissions, follow-up, patient satisfaction, and selected outcomes, before moving toward more complex outcome-linked payments.
9. *Audits must focus on both fraud control and quality improvement.*
Medical audits should not only detect fraud, upcoding, and unnecessary admissions but also identify systemic gaps in quality, referral practices, treatment protocols, and patient experience.
10. *State-level innovation and international learning can accelerate reform.*
Experiences from different health systems show that strategic purchasing evolves through experimentation, continuous monitoring, and adaptation. The path forward lies in combining global lessons with state-level pilots that are feasible, measurable, and scalable.



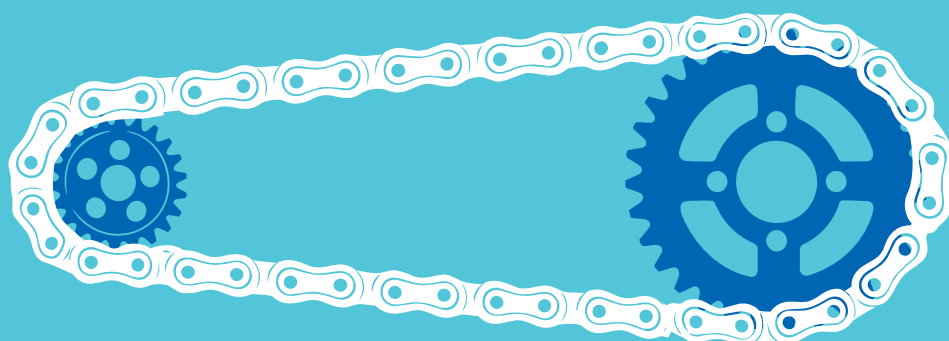
Call to Action

The moderator, Ms. Himani Sethi, called on the states to begin with practical steps. Strengthen care pathways and primary care referrals first. Use existing audit systems to measure outcomes on a few high-impact conditions. Launch small pilots that test incentives before full payment reform. States should share lessons and continue collaboration with international partners. The session showed that the journey from utilization to value is long but achievable when states start small, measure results, and keep patients at the centre.



Thematic Session 04

Regulatory Harmonization & Localization Twin Pillars for Building Resilient Health Product Supply Chains



SPEAKERS' DETAILS

Mr. Girish Bommakanti

Global Director - Operations and Strategic Growth,
ACCESS Health International
Moderator

Dr. Emily Kaine (Virtual)

Senior Vice President - Global Health & Manufacturing
Services, United States Pharmacopeia
Keynote Speaker

Dr. Rajiv Chhibber

Vice President, External Affairs (Policy, Govt Relations &
Outreach), Sahajanand Medical Technologies
Panelist

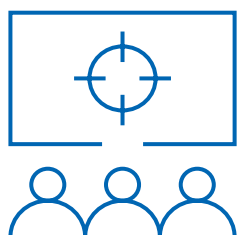
Dr. Alex Juma Ismail (Virtual)

Program Officer - African Medicines Regulatory
Harmonization, African Union Development Agency
Panelist

Mr. Maulik Chokshi

Global Director - Health Systems Research and Policy,
ACCESS Health International
Panelist

Context & Session Objectives



Over the past decade, Africa has made unprecedented progress in strengthening its regulatory architecture, transitioning from highly fragmented national systems to an increasingly harmonized continental ecosystem. This transformation has been catalyzed by the African Union's regulatory initiatives, led by AUDA-NEPAD's AMRH, the operationalization of the African Medicines Agency (AMA), and growing political commitment toward regional integration.

A major accelerator in this journey has been the technical guidance and support from the European Medicines Agency (EMA), which contributed its expertise to the African Union's first continental pharmaceutical product listing pilot. EMA's involvement helped shape alignment processes, strengthen regulatory assessment methodologies, and build continental-level confidence for future harmonized pathways.

At the same time, Africa is entering a new phase of local manufacturing expansion and technology transfer, recognizing that regulatory harmonization alone cannot secure supply chain resilience. Localization—whether through fill-finish, packaging, API integration, or full-cycle production—ensures continuous availability, reduced import dependency, faster emergency response, and greater economic value retention within the continent. Many African governments are therefore pairing harmonized regulations with tax incentives, industrial policies, and bilateral manufacturing partnerships.

Under the leadership of H.E. Dr. Delese Mimi Darko, AMA is advancing three priorities essential for a resilient supply chain:

1. Onboarding all AU Member States,
2. Supporting—not replacing—National Regulatory Authorities, and
3. Actively enabling and encouraging the African local industry.

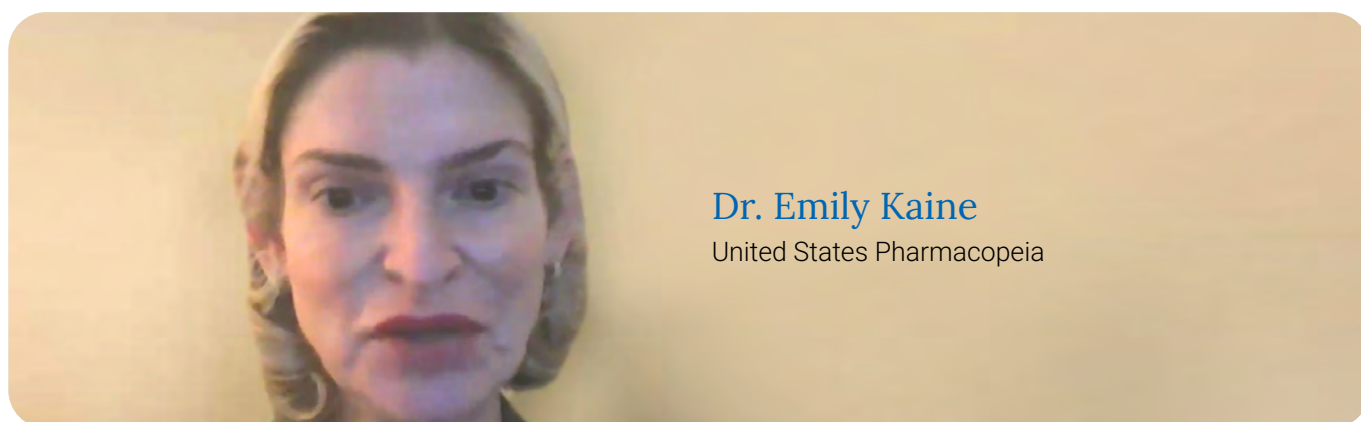
Together with AUDA-NEPAD's work on listing, reliance models, and emerging pooled procurement mechanisms, Africa is laying the foundation for a coherent, predictable, and investment-friendly regulatory environment that supports technology transfer and sustained local production. This GLC session focuses on these two interconnected pillars—harmonization and localization—and how their convergence is shaping Africa's path toward self-reliance and supply chain resilience.

The session aimed to:

- Highlight Africa's progress in regulatory harmonization (AMRH, AMA operationalization, and continental listing and lessons learnt from global experience)
- Examine the role of localization and technology transfer in strengthening supply chain resilience, showing how harmonization and localization collectively reduce dependency, accelerate access, and stabilize supply chains

Highlights from Individual Presentations/Talks

Keynote Address: Strengthening Regulatory Systems for Access to Quality Medicines



Dr. Emily Kaine

United States Pharmacopeia

Dr. Emily Kaine emphasized that strong regulatory systems are fundamental to ensuring timely access to safe, effective, and quality-assured medicines. She highlighted that regulatory maturity is a key enabler for global harmonization and reliance mechanisms, which ultimately improve efficiency and patient access.

She noted that while progress has been made globally, only a limited proportion of countries have achieved higher levels of regulatory maturity, indicating the need for continued investments in capacity building, systems strengthening, and institutional development.

Dr. Kaine discussed critical challenges faced by regulatory authorities, including human resource constraints, dossier backlogs, high costs of quality surveillance, and balancing stricter standards with maintaining access. She emphasized the importance of risk-based approaches, phased implementation of regulations, and stronger coordination with industry.

She further highlighted that resilient pharmaceutical systems require diversified supply chains, quality assurance mechanisms, and coordinated global efforts, especially during crises when the risk of substandard or falsified medicines increases.



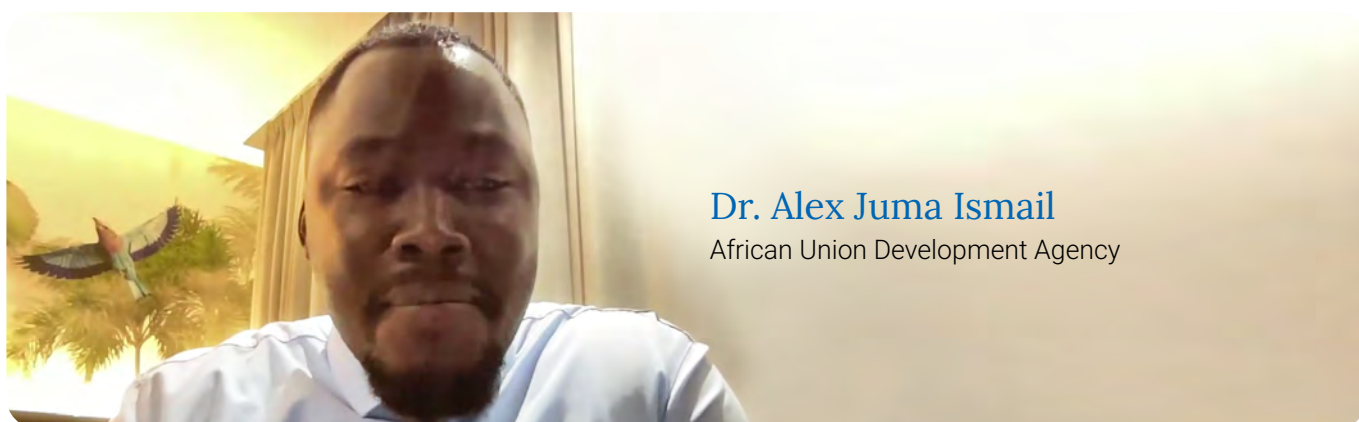
Regulatory maturity builds trust, and trust is essential for reliance and harmonization.

Dr. Emily Kaine



Highlights from Panel Discussion

Regulatory Harmonization and Global Collaboration



Dr. Alex Juma Ismail

African Union Development Agency

Dr. Alex Juma Ismail highlighted Africa's journey toward regulatory harmonization through regional collaboration and the establishment of the African Medicines Agency. He explained how fragmented regulatory systems previously created inefficiencies and delays, and how harmonization efforts have significantly reduced timelines for product approvals.

He emphasized that joint assessments, shared standards, and regional cooperation have enabled faster decision-making and improved access to medicines across multiple countries.

Dr. Kaine added that regulatory reliance depends on trust between institutions, which is built through consistent quality standards and transparent systems. She noted that strengthening national regulatory authorities remains critical for the success of broader continental mechanisms.



Harmonization transforms multiple fragmented systems into a unified pathway for access.

Dr. Alex Juma Ismail



Highlights from Individual Presentations/Talks

Supply Chain Resilience and Local Production



Mr. Maulik Chokshi emphasized that supply chain resilience depends on reducing dependency on single geographies and strengthening local production capacities. He highlighted lessons from global disruptions, noting that countries must build capabilities across the entire value chain—from raw materials to finished products. He pointed out that local manufacturing, combined with efficient procurement systems, can reduce vulnerabilities and improve access during crises.



Resilient systems require both production capacity and the ability to absorb and distribute efficiently.

Mr. Maulik Chokshi



Dr. Rajiv Chhibber reinforced this by highlighting India's experience in reducing import dependency and strengthening domestic manufacturing ecosystems. He noted that policy support, incentives, and ecosystem development have played a crucial role in enhancing self-reliance.



Localization is not isolation—it is strategic self-reliance supported by global collaboration.

Dr. Rajiv Chhibber





Pooled Procurement and Market Efficiency

Panelists discussed pooled procurement as a key strategy for improving affordability and ensuring consistent supply. Dr. Ismail highlighted Africa's efforts to establish pooled procurement mechanisms that aggregate demand across countries, making markets more attractive for manufacturers.

Dr. Kaine emphasized that pooled procurement helps address cost-related challenges and ensures sustainability by creating predictable demand for quality products.

Quality Assurance and Risk Management in Crises

Dr. Kaine emphasized that maintaining quality standards is critical during crises, as shortages often lead to the proliferation of substandard or falsified products.

She highlighted the importance of emergency regulatory pathways combined with strong quality oversight to ensure safe and timely access to medicines. She reiterated that in times of crisis, quality assurance becomes even more critical, not less.

Localization, Policy Support, and Industry Ecosystems

Dr. Chhibber highlighted that localization requires strong policy alignment, financial incentives, and ecosystem development, including infrastructure, technology transfer, and industry-academia collaboration.

He noted that government initiatives, such as production-linked incentives and procurement policies, have played a significant role in driving domestic manufacturing growth.

Mr. Chokshi further emphasized that reducing regulatory barriers, improving ease of doing business, and ensuring access to financing are critical for encouraging investment in local manufacturing. He added that localization succeeds when policy, incentives, and industry ecosystems work together.

Regulatory Efficiency and Market Access

Mr. Chokshi highlighted the importance of streamlining regulatory processes to reduce delays in market entry, noting that lengthy approval timelines directly impact pricing and availability of medicines.

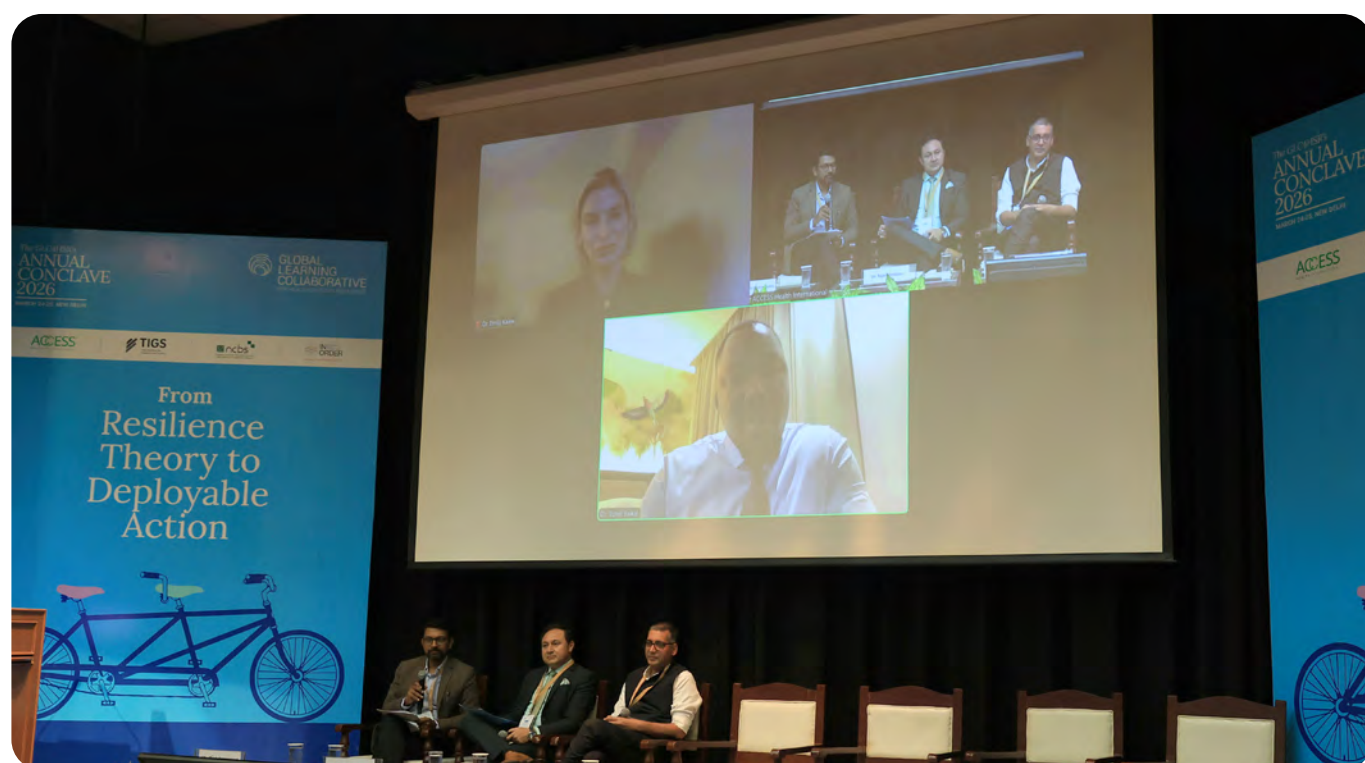
He emphasized that balancing centralized and decentralized regulatory approaches can improve efficiency, allowing faster approvals for standardized products while maintaining rigorous evaluation for complex innovations.

Dr. Chhibber added that regulatory alignment with global standards is essential for enabling exports and integrating into global supply chains, particularly for emerging sectors like medical devices.

Data Systems, Monitoring, and Adaptive Regulation

Mr. Chokshi stressed the importance of real-time monitoring systems (Pharmaceutical Monitoring Information System) to track production capacity, demand patterns, and regulatory changes. He highlighted the need for integrated information systems to support decision-making and ensure a timely response to shifting health needs.

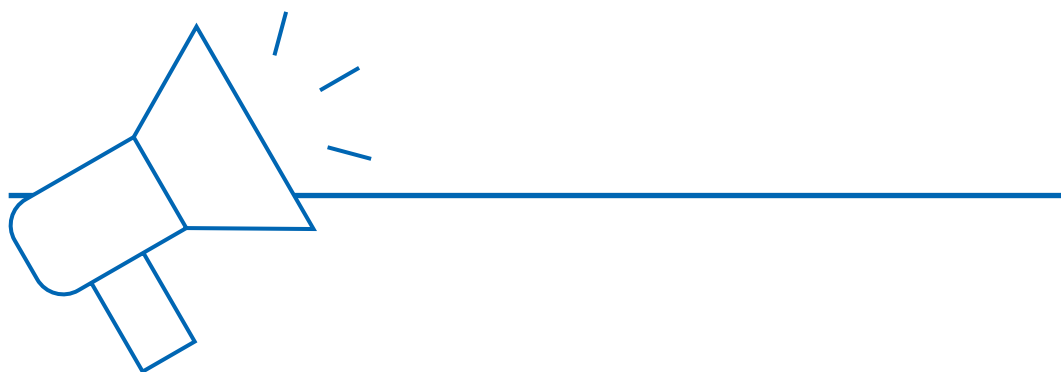
He also noted that regulatory environments must evolve continuously to keep pace with changing technologies and market dynamics. He added that real-time data and adaptive regulation are essential for responsive and resilient supply chains.





Key Session Takeaways

1. **Regulatory harmonization:** Enables faster access by reducing duplication and improving efficiency across countries. It allows countries to align requirements, avoid repeated reviews, and accelerate approvals for essential health products.
2. **Strong national regulatory systems:** Serve as the foundation for effective global and regional collaboration. Countries with clear standards, skilled institutions, and reliable regulatory processes are better positioned to participate in shared regional and global mechanisms.
3. **Localization of production:** Enhances resilience by reducing dependency on external supply chains. Local manufacturing capacity can help ensure continuity of access during disruptions, emergencies, or global supply shortages.
4. **Pooled procurement:** Improves affordability and supply stability through demand aggregation. By consolidating demand, countries and institutions can negotiate better prices and create more predictable supply arrangements.
5. **Streamlined regulatory processes:** Reduce delays and costs, improving patient access to medicines. Efficient approval pathways can help bring safe, quality-assured products to patients faster without compromising regulatory safeguards.
6. **Policy incentives and ecosystem development:** Drive local manufacturing growth. Supportive policies, financing, infrastructure, technology transfer, and skilled workforce development are essential to make local production sustainable.
7. **Data-driven monitoring systems:** Are essential for responsive and adaptive supply chains. Real-time data on demand, stock levels, consumption, and disruptions can help systems anticipate shortages and respond quickly.
8. **Balanced regulatory approaches:** Centralized and decentralized approaches together improve efficiency and scalability. Centralized systems support consistency, while decentralized capacities enable faster local implementation and oversight.
9. **Quality assurance:** Must remain non-negotiable, especially during emergencies. Even during crises, accelerated access must be matched with strong safeguards against substandard, falsified, or unsafe products.
10. **Cross-sector collaboration:** Collaboration across governments, industry, and global agencies is critical for building resilient health product systems. Sustained partnerships can align policy, financing, manufacturing, procurement, regulation, and delivery around shared access goals.

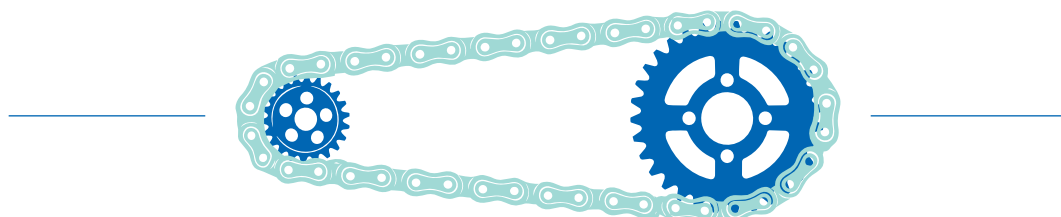


Call to Action

Mr. Girish Bommakanti concluded that resilient supply chains depend on a balanced approach that integrates regulatory harmonization, localization, and strong governance systems. He emphasized that while regulatory processes may take time, mechanisms such as reliance models, pooled procurement, and regional collaboration offer practical pathways to accelerate access.

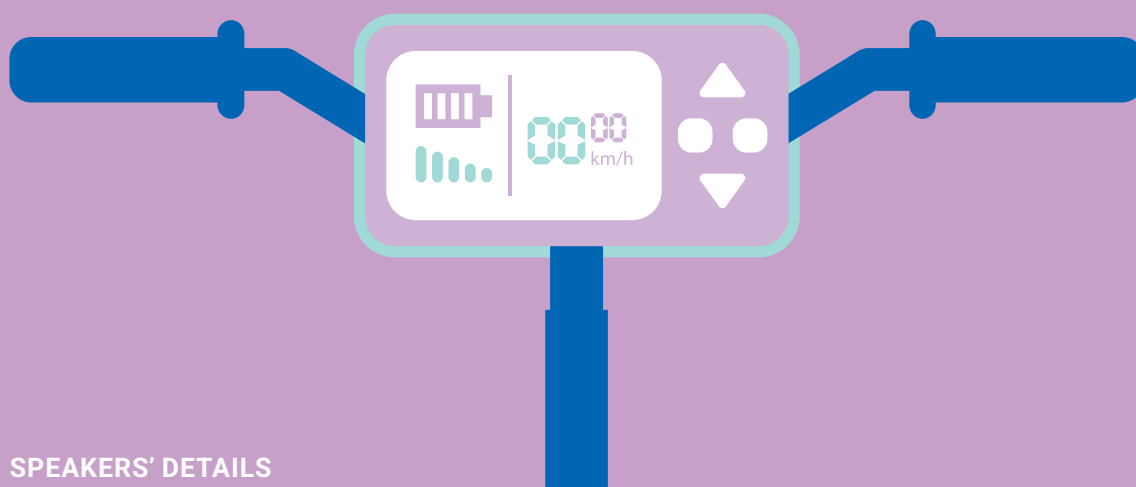
He added that resilient supply chains are built through a combination of strong regulation, local capacity, and global collaboration and that countries must strategically decide what to produce locally and what to procure globally, supported by policy incentives and robust monitoring systems.

He concluded with a powerful thought that the future lies in building ecosystems that are both locally strong and globally connected.



Thematic Session 05

Health Data Governance: From Global Frameworks to Clinical Reality



SPEAKERS' DETAILS

Ms. Supriya C. Prabhakar,

Technical Head, Technology Applications and
Services – Digital Health, ACCESS Health International
Moderator

Dr. Aida Karazhanova

Senior Policy Advisor on Digital Transformation
Presenter and Panelist

Ms. Kanika Kalra

Technical Officer (AI Law and Policy)
at the World Health Organization
Presenter and Panelist

Dr. Mona Duggal

Director of the ICMR – National Institute for
Research in Digital Health and Data Sciences
Panelist

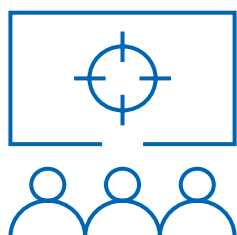
Dr. Suvrankar Datta

Simons Ashoka Early Career Fellow at Ashoka University
Panelist

Dr. N. Krishna Reddy

CEO of ACCESS Health International
Panelist

Context & Session Objectives



As global health systems confront an era defined by converging digital transformation and persistent systemic fragility, the imperative to govern health data and artificial intelligence with rigour, equity, and foresight has never been more urgent.

The session was deliberately structured around four interconnected pillars underpinning long-term health system resilience: the intelligent deployment of digital health technologies and data; the competencies and continuous professional development of the health workforce; financing architectures for affordable and sustainable resilience; and the empowerment of communities as co-architects—rather than passive beneficiaries—of resilient health ecosystems.

This opening session, convened five distinguished panelists and a discussant from WHO, spanning the full governance continuum. The session was conceptualised around a five-pillar governance chain—a deliberate architectural metaphor in which each layer depends on the one above it and shapes everything that comes after:

Pillar 1: Infrastructure – Data architecture, consent frameworks, and interoperability, embedded before governance is written. Pillar 2: Global Frameworks – WHO principles, OECD standards, and the Health AI Global Regulatory Network. Pillar 3: National Evidence & Ethics – ICMR guidelines, India's SAHI strategy, and evidence requirements for responsible AI. Pillar 4: Policy Implementation – Institutional capacity, financing, and enforcement across health systems. Pillar 5: Clinical Reality – The clinician, the patient, the decision—where governance proves itself or fails.

The session's animating premise was that the governance chain is only as strong as its weakest link. Its objectives were to interrogate the foundational infrastructure decisions that constrain or enable effective governance; to appraise the evolution and reach of WHO's normative trilogy on AI in health; to surface India's practical governance challenges in ethical review, data stewardship, and public-private collaboration; to confront the widening implementation gap between policy ambition and health-facility readiness; and to anchor the discourse in the non-negotiable clinical imperative—ensuring that governance ultimately serves patients, empowers clinicians, and advances the goal of equitable, trustworthy, and transformative health AI.

Highlights from Individual Presentations/Talks

Dr. Aida Karazhanova – Digital Public Infrastructure and Trust as the Foundation for Health AI Governance (Pillar 1: Infrastructure)



Dr. Aida Karazhanova, Senior Policy Advisor on Digital Transformation, previously at the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP), set the conceptual trajectory of the session with a compelling proposition: **governance does not begin with regulation—it begins at the infrastructure design stage.** She argued that the foundational architectural choices a country makes—its data schemas, interoperability protocols, consent architectures, and data sovereignty frameworks—do not merely support governance; they constitute it. Without these structural preconditions, she cautioned, even the most sophisticated regulatory instruments risk becoming performative artefacts, disconnected from the operational realities of health data exchange.

Dr. Karazhanova placed particular emphasis on the indispensability of trust—not as an abstract principle, but as a measurable infrastructure

outcome. She underscored that digital identities and verifiable credentials require continuous validation to sustain systemic integrity, and warned that fragmentation of digital ecosystems represents a critical vulnerability that undermines data exchange and amplifies systemic failure risk. Her analysis drew on concrete regional experience, including the Asia-Pacific Information Superhighway Initiative, a multi-sectoral digital maturity framework encompassing health, education, and disaster risk reduction, and pilot projects in North and Central Asia.

In a particularly forward-looking contribution, Dr. Karazhanova presented blockchain technology as a **trust-enabling platform** capable of providing immutable, verifiable data repositories and supporting cross-border digital identity verification—citing deployments in real estate pledging in Kazakhstan and cross-border digital permits as proof-of-concept precedents with clear health-sector applicability. She concluded with a

forceful call for **public-private partnerships as the sine qua non of sustainable investment in digital public infrastructure**, and for the adoption of interstate and United Nations standards—rather than fragmented national standards—to foster the interoperability and mutual recognition essential for resilient, cross-border health ecosystems.



Digital transformation is not really about technology... it is about interactions and trust between institutions.

Dr. Aida Karazhanova



Ms. Kanika Kalra – WHO's Global Normative Architecture for AI Governance in Health (Pillar 2: Global Frameworks)



Ms. Kanika Kalra
World Health Organization

Ms. Kanika Kalra, Technical Officer (AI Law and Policy) at the World Health Organization, provided a masterful exposition of WHO's evolving normative architecture—a governance trilogy that has rapidly become the reference framework for member states worldwide. The trilogy comprises the 2021 Ethics and Governance of Artificial Intelligence for Health (six foundational principles—human autonomy, well-being, transparency, accountability, inclusiveness, sustainability—as non-negotiable conditions for legitimate AI deployment), the 2023 Regulatory Considerations on Artificial Intelligence for Health (18 operationalised recommendations covering risk stratification, lifecycle regulation, data quality, and international regulatory cooperation), and the 2024 Guidance on Large Multimodal Models—a signal that WHO is not governing yesterday's AI, but the systems being deployed now.

Ms. Kalra contextualised the governance challenge by mapping the expanding frontier of AI applications already deployed across health

systems globally—spanning computer vision, surgical robotics, clinical decision support, predictive analytics, ambient intelligence, and digital twins. She articulated WHO's Global Initiative on AI for Health as a three-pillar architecture: enabling (standards, guidance, and normative products), facilitating (cultivating a global community of multidisciplinary experts), and implementing (supporting field-level application in diverse health system contexts). Her core argument on implementation resonated deeply with the panel: the Global Initiative functions only when all three pillars operate simultaneously—selective investment produces governance in name only.

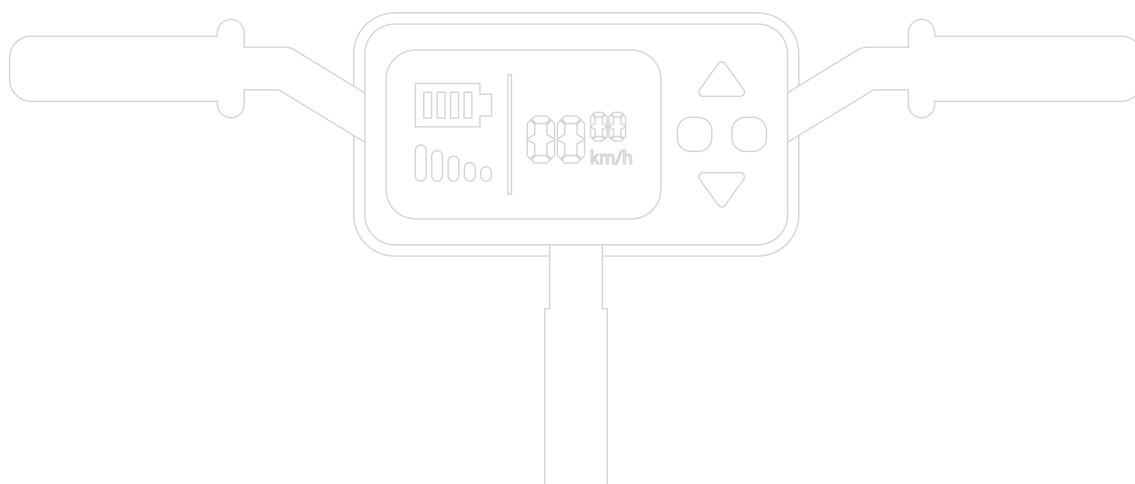
Perhaps the most consequential insight Ms. Kalra offered was the scale of the global implementation gap: while 129 countries have articulated digital health strategies, only approximately 30–35 have progressed to operational AI regulations, with the majority still navigating early-stage policy formulation or infrastructure development. She

provided a nuanced comparative analysis of India's emerging governance posture—characterised by a balanced, innovation-enabling approach—against the more precautionary architecture of the European Union AI Act, arguing persuasively that a regulation which cannot adapt faster than the technology it governs is not a safeguard—it is a liability. She stressed that equity in governance design is a precondition for global health security, not an afterthought.



Without governance, AI risks undermining the very systems it seeks to improve.

Ms. Kanika Kalra



Dr. Mona Duggal – India's Research Stewardship and the Governance of Evidence Generation (Pillar 3: National Evidence & Ethics)



Dr. Mona Duggal

ICMR – National Institute for Research in Digital Health and Data Sciences

Dr. Mona Duggal, Director of the ICMR – National Institute for Research in Digital Health and Data Sciences, brought the discourse from global architecture to national praxis with a candid and evidence-rich account of India's governance journey. ICMR's leadership in developing ethical AI guidelines—comprising 10 foundational principles and 17 operational checklists—and its active membership in the Health AI Global Regulatory Network alongside the United Kingdom and Singapore position India as a significant contributor to the emerging global governance ecosystem.

Yet Dr. Duggal was forthright about the persistent structural bottlenecks. In a federated health system—a governance topology India shares with the European Union, Brazil, and numerous other jurisdictions—multi-centric AI research studies face fragmented ethics review processes, with traditional institutional review boards frequently lacking the computational and methodological

literacy required to evaluate AI research proposals with the speed and sophistication the technology demands. Her advocacy for specialised digital review boards—purpose-built to adjudicate AI research with technical competence and procedural agility—emerged as one of the session's most pragmatic and widely endorsed recommendations.

Dr. Duggal highlighted the indispensability of public-private collaboration, noting that the locus of AI innovation resides overwhelmingly in the private sector, but that government stewardship is essential for achieving scale, ensuring representativeness of training data, and aligning incentive structures with public health objectives. She cited Andhra Pradesh's Computational Health Unit—a government-embedded centre of excellence—as a replicable model of institutional capacity building, and described multiple pilot projects across Indian states that are generating the data sharing and evaluation frameworks

essential for responsible scale-up. Her concluding emphasis on fast-tracking ethical approvals and establishing national AI registries underscored the urgency of institutional adaptation in an era where the pace of technological innovation far outstrips the cadence of regulatory response.



The only way to learn how to build these systems... is to actually start building them.

Dr. Mona Duggal



Dr. Suvrankar Datta – Confronting the Implementation Chasm (Pillar 4: Policy Implementation)

Dr. Suvrankar Datta
Ashoka University



Dr. Suvrankar Datta, Simons Ashoka Early Career Fellow at Ashoka University, delivered what was perhaps the session's most arresting reality check. Speaking from the vantage point of a researcher who bridges computational science and health policy, he confronted the panel with an uncomfortable truth: the proliferation of guidelines has itself become a barrier to implementation. Hospital administrators and health system managers—the very stakeholders charged with operationalising AI governance—are overwhelmed by the volume and complexity of overlapping directives, and many have resorted to using tools like ChatGPT to interpret guidelines superficially, missing their substantive intent entirely.

Dr. Datta called for a fundamental reorientation from principle-based to use-case-driven, maturity-tiered guidance that enables hospitals to identify AI applications appropriate to their

specific level of digital infrastructure, workforce capacity, and institutional readiness. He observed that back-office and administrative AI—revenue cycle management, scheduling optimisation, supply chain analytics—is gaining adoption momentum significantly faster than clinical AI, driven by clearer return-on-investment calculations and lower regulatory ambiguity.

His analysis of the Digital Personal Data Protection (DPDP) Act was particularly incisive. Dr. Datta characterised the legislation as a necessary safeguard that has inadvertently produced a chilling effect on the very data sharing it should enable. The Act's current ambiguities have created a risk-averse posture among hospitals and health institutions, discouraging the data partnerships with AI startups and research organisations that are essential for developing representative, high-quality training datasets. He highlighted the

compounding challenge of anonymisation in medical imaging, where re-identification risks remain technically formidable, and called for pragmatic regulatory clarification that reconciles data protection with the innovation imperative.



The real challenge is not whether frameworks exist... it is whether people know how to use them.

Dr. Suvrankar Datta



Dr. N. Krishna Reddy – The Clinical Imperative: AI Adoption, Accountability, and the Primacy of the Patient (Pillar 5: Clinical Reality)

Dr. N. Krishna Reddy
ACCESS Health International



Dr. N. Krishna Reddy, CEO of ACCESS Health International, anchored the session's intellectual arc in the perspective that ultimately matters most: that of the clinician and the patient. His contribution reframed the governance discourse from an institutional and regulatory exercise into an ethical and professional one, asserting that clinicians adopt technology only when it demonstrably improves patient care and aligns with the foundational ethics of medical practice. This is not resistance, he argued—it is the appropriate exercise of professional judgement that governance frameworks must respect and accommodate.

Dr. Reddy articulated AI as a natural and necessary evolution of medical technology—one capable of augmenting clinicians' cognitive capacities and enabling them to assimilate and act upon the exponentially expanding corpus of medical evidence. He introduced a powerful equity proposition: that AI has the potential to

democratise cognitive intelligence, compressing the quality gap in clinical decision-making across providers, geographies, and resource settings. This framing positioned AI not merely as an efficiency tool, but as a force multiplier for health equity—provided governance ensures that its benefits are distributed justly.

On the critical question of accountability, Dr. Reddy was unequivocal: the treating clinician retains ultimate responsibility for patient outcomes, irrespective of AI involvement, and this accountability cannot be abdicated to technology developers, vendors, or algorithmic outputs. He stressed that AI diagnostic and therapeutic tools must be held to the same evidentiary standards of safety, efficacy, and validation as any medical device or pharmaceutical intervention. His metaphor of AI as an evolving "child"—requiring continuous training, correction, and supervised maturation—underscored the imperative for regulations that accommodate the dynamic,

iterative nature of machine learning systems rather than treating them as static products. Dr. Reddy concluded by highlighting the challenges that chatbots and automated decision tools pose to traditional models of informed consent and doctor-patient trust, calling for governance innovations that preserve the relational foundation of clinical care.



AI gives healthcare systems tremendous efficiency... especially where human managerial capacity is limited.

Dr. N. Krishna Reddy





Highlights from Panel Discussion

Infrastructure as the Bedrock of Governance: Designing for Trust

The panel's deliberative exchange opened with a foundational question that would reverberate through every subsequent theme: Is governance a regulatory layer superimposed upon technology, or is it an intrinsic property of infrastructure design itself? Dr. Karazhanova argued with conviction for the latter proposition, asserting that the choices made at the infrastructure layer—data architecture, interoperability standards, consent mechanisms, and digital identity systems—do not merely support governance but fundamentally define its possibilities and constraints. Without trusted, verifiable digital identities and interoperable data platforms, she warned, even well-crafted regulatory instruments risk becoming aspirational documents detached from operational reality.

Dr. Reddy amplified this argument from the clinical frontline, noting that clinicians will neither adopt nor trust AI systems built upon fragmented, unverified, or siloed data—regardless of the regulatory permissions that accompany them. The panel converged on a formulation that became one of the session's defining propositions: trust is not a policy aspiration but an infrastructure outcome, engineered through deliberate design choices around data provenance, identity verification, system interoperability, and operational resilience. Dr. Karazhanova's presentation of blockchain-enabled cross-border digital identity verification in Central Asia was discussed as a compelling proof-of-concept with direct applicability to health data exchange across the Asia-Pacific and beyond.

The Implementation Gap: From Normative Ambition to Operational Reality

Ms. Kalra's presentation of WHO's governance trilogy—a landmark body of normative work spanning ethics, regulation, and emerging technology guidance—catalysed one of the session's most consequential discussions: the distance between multilateral normative ambition and country-level operational reality. The panel confronted the stark arithmetic: while 129 member states have articulated digital health strategies, only approximately 30–35 have translated these into operational AI regulatory frameworks. This gap, panellists agreed, reflects not an absence of political will but a deficit in technical capacity, institutional readiness, and contextualised, actionable guidance.

Dr. Datta pressed the panel to reckon with an uncomfortable corollary: the sheer proliferation of normative instruments has itself become an impediment. When hospital administrators lack the expertise, bandwidth, or institutional support to translate high-level principles into facility-level protocols, the result is not governed AI deployment but ungoverned improvisation. The discussion converged on a clear consensus: the next frontier of health AI governance lies not in producing more frameworks, but in developing use case-specific, maturity-tiered guidance that meets health systems precisely where they are. Ms. Kalra acknowledged this imperative and described WHO's Global Initiative on AI for Health as an evolving platform designed to bridge this translation gap—but conceded that substantially more investment in country-level capacity is required.



National Governance in a Federated Landscape: India as Exemplar and Cautionary Tale

Dr. Duggal's account of India's governance landscape illuminated challenges that resonate far beyond the subcontinent. ICMR's 10-principle ethical AI framework and its strategic positioning within the Health AI Global Regulatory Network represent significant institutional achievements. Yet the practical reality of governing AI research and deployment in a federated health system—a governance topology shared by India, the European Union, Brazil, and numerous other jurisdictions—reveals persistent structural friction. Multi-centric AI studies face fragmented ethics review processes; traditional institutional review boards lack the computational literacy to evaluate AI proposals with requisite rigour and speed; and the incentive architecture for AI adoption in public health facilities remains underdeveloped.

The panel's discussion of specialised digital review boards as a mechanism to resolve these bottlenecks was robust and constructive. Dr. Duggal's showcase of Andhra Pradesh's Computational Health Unit—a government-embedded centre of excellence for health AI capacity building—was received as a replicable institutional model for other states and nations. Ms. Kalra enriched the discussion with a comparative perspective, contrasting India's innovation-enabling, risk-calibrated governance posture with the more precautionary architecture of the European Union AI Act, and arguing that India's approach offers particularly instructive lessons for low- and middle-income countries seeking to balance regulatory prudence with the urgency of technological leapfrogging.

Data Stewardship at the Crossroads: Privacy, Utility, and the DPDP Act

Among the session's most intellectually charged exchanges was the panel's examination of the tension—real and perceived—between data privacy and data utility in the context of the Digital Personal Data Protection (DPDP) Act. Dr. Datta framed the challenge with precision: while the DPDP Act represents a necessary and overdue legislative safeguard, its current interpretive ambiguities have generated an unintended consequence of considerable magnitude—a risk-averse institutional culture that inhibits the very data sharing partnerships between hospitals, research institutions, and AI developers upon which algorithm quality, representativeness, and equity depend.

The technical dimensions of this challenge proved equally formidable. The panel engaged deeply with the persistent re-identification risks inherent in medical imaging data, where conventional anonymisation techniques remain insufficient against increasingly sophisticated de-anonymisation methods. Dr. Duggal described ICMR's ongoing development of data sharing and evaluation frameworks involving academic and health institutions as a step towards institutional solutions, but acknowledged that the pace of regulatory clarification has not matched the velocity of technological innovation. The panel's consensus was unambiguous: privacy protection and data utility are not competing values but complementary imperatives that must be pursued simultaneously through clearer regulatory guidance, advanced anonymisation standards, purpose-limitation frameworks, and trusted data intermediary architectures.



Clinical Accountability and Patient-Centred Governance: The Non-Negotiable Foundation

Dr. Reddy's assertion that clinical accountability is the irreducible foundation of health AI governance anchored what was arguably the session's most ethically consequential discussion. The panel affirmed, without dissent, that regardless of the sophistication of algorithmic outputs, the treating clinician retains ultimate moral and professional responsibility for patient outcomes. This principle carries profound regulatory implications: AI diagnostic and therapeutic tools must be subjected to the same evidentiary standards of safety, efficacy, and validation as conventional medical devices and pharmaceutical interventions.

The panel explored Dr. Reddy's evocative framing of AI as an entity requiring continuous supervised maturation—demanding ongoing training, correction, and human oversight rather than one-time certification. This conceptualisation has direct implications for regulatory design, demanding frameworks that mandate postmarket surveillance, human-in-the-loop governance, and periodic revalidation. The discussion also confronted the erosion of traditional informed consent models in an era of conversational AI, chatbots, and autonomous decision support tools. The panel called for governance innovations that preserve the relational foundation of clinical care—transparency, trust, shared decision-making, and clear liability allocation—even as the technological modalities of care delivery undergo fundamental transformation.

Discussant Contribution: Dr. Rajeshwari Singh – WHO's Global Initiative and the Architecture of Responsible Adoption

Dr. Rajeshwari Singh of the World Health Organization sharpened the panel's concluding deliberations with a contribution that reframed the terms of the governance discourse. She reminded the panel that trust-building must precede regulation, procurement, and deployment—a sequencing principle that, if violated, produces governance architectures that are structurally sound but institutionally hollow. She emphasised that institutional governance capacity must be built in parallel with the AI systems themselves, not as an afterthought once deployment is already underway.

Dr. Singh's articulation of WHO's Global Initiative on AI for Health as a narrative-shifting enterprise—not merely a norm-setting one—was among the session's most resonant formulations. She argued that responsible AI adoption demands of member states not just compliance with standards, but a fundamental reorientation of institutional culture, capability, and imagination. The platform, she explained, supports low- and middle-income countries through five interconnected modalities: multidisciplinary collaboration, normative product development, regulatory capacity strengthening, implementation support, and institutional capacity building—bridging expertise across health, technology, law, policy, and innovation to foster AI that reaches those who need it most.

Multilateral Cooperation and the Imperative of Harmonisation

The session's final thematic strand addressed the structural indispensability of multilateral cooperation. Dr. Karazhanova reinforced the importance of clean, verifiable data, trusted digital identities, interoperability, and coordination—especially during disruption—drawing on Asia-Pacific experience to demonstrate how countries at earlier stages of digital maturity can leverage regional infrastructure built by more digitally advanced neighbours. This model of cooperative sovereignty strengthens collective resilience without compromising national autonomy.

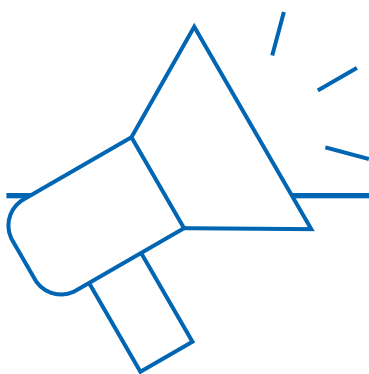
The panel identified an urgent next frontier: harmonising AI-enabled medical device classification across the EU AI Act, FDA pathways, and WHO guidance. The technical gap between these regulatory architectures, panellists observed, is smaller than the political one—but closing it before regulatory fragmentation becomes regulatory arbitrage, at the cost of patient safety, is the work of the next 24 months. The panel's concluding consensus was emphatic: no single country—regardless of its technological sophistication or regulatory maturity—can govern health AI in isolation. The complexity, velocity, and borderless nature of AI demand harmonised standards, mutual recognition frameworks, and sustained multilateral investment in the institutional architecture of global cooperation.





Key Session Takeaways

1. *Governance is an infrastructure property, not a regulatory overlay.* The foundational architectural choices a country makes—data schemas, interoperability protocols, consent frameworks, and digital identity systems—define the ceiling of what governance can achieve. Policy ambition without infrastructure investment is aspiration without mechanism.
2. *Trust must be engineered, not merely declared.* Verifiable digital identities, provenance-assured data, and interoperable systems are the structural prerequisites for the institutional trust upon which health AI governance depends. Trust is an infrastructure outcome, measurable and designable.
3. *WHO's normative trilogy constitutes the most comprehensive multilateral governance framework to date.* The 2021 Ethics Guidance, 2023 Regulatory Considerations, and 2024 Large Multimodal Model Guidance provide actionable principles and checklists—but their translation into operational national frameworks remains the defining governance challenge of this decade.
4. *The implementation gap demands a paradigm shift in guidance design.* With only 30–35 of 129 countries with digital health strategies having progressed to operational AI regulations, the next frontier lies in use case-specific, maturity-tiered guidance that meets health systems at their current level of readiness.
5. *Specialised digital review boards are a pragmatic necessity.* Traditional ethics review mechanisms lack the computational and methodological literacy to evaluate AI research with the speed and sophistication the technology demands. Purpose-built digital review boards can resolve this bottleneck while maintaining ethical rigour.
6. *Privacy protection and data utility are complementary imperatives.* The DPDP Act's interpretive ambiguities must be resolved through regulatory clarification, advanced anonymisation standards, and trusted data intermediary architectures to prevent a chilling effect on the data partnerships essential for equitable algorithm development.
7. *Clinical accountability is the irreducible foundation.* The treating clinician retains ultimate responsibility for patient outcomes regardless of AI involvement. This principle is non-negotiable and must inform the design of every regulatory, liability, and oversight mechanism.
8. *AI can serve as a force multiplier for health equity.* By augmenting clinical cognition and compressing decision-quality disparities across providers and geographies, responsibly governed AI has the potential to democratise access to high-quality clinical intelligence—particularly in resource-constrained settings.
9. *Trust-building must precede deployment.* Institutional governance capacity must be built in parallel with AI systems, not retrofitted. WHO's Global Initiative represents not merely a norm-setting enterprise but a narrative-shifting one—redefining what responsible adoption demands of member states.
10. *Regulatory harmonisation is the next urgent frontier.* Harmonising AI-enabled medical device classification across the EU AI Act, FDA pathways, and WHO guidance before regulatory fragmentation becomes regulatory arbitrage—at the cost of patient safety—is the work of the next 24 months. No single country can govern health AI in isolation.



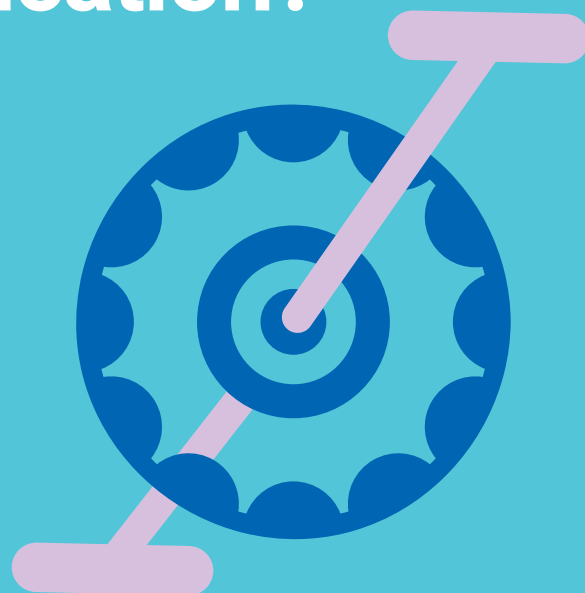
Call to Action

In her closing synthesis, Ms. Supriya C. Prabhakar observed that the session had traced a deliberate and revealing arc across the five pillars of the governance chain—from the bedrock of digital public infrastructure through global normative architecture, national evidence and ethics, the implementation chasm, and the primacy of clinical accountability—demonstrating that these are not sequential stages in a linear pipeline but deeply interconnected, mutually conditioning dimensions of a single, complex governance challenge. The chain, as the session demonstrated, is only as strong as its weakest link. She distilled the panel's deliberations into a clear, actionable call to the global health community: *health AI governance must now make the decisive transition from frameworks to field implementation, anchored in three non-negotiable pillars—trusted digital infrastructure, adaptive and context-responsive regulation, and unwavering clinical accountability*. She articulated five imperatives for the path forward:

First, governments must invest in interoperable digital public infrastructure as the foundational layer upon which all subsequent governance depends. *Second*, regulators must move beyond one-size-fits-all directives to develop tiered, use-case-specific guidance calibrated to the digital maturity and institutional capacity of the health systems they serve. *Third*, ethics review mechanisms must be modernised through specialised digital review boards capable of evaluating AI research with technical competence and procedural speed. *Fourth*, data governance frameworks must be redesigned to reconcile the dual imperatives of robust privacy protection and the data access essential for equitable, representative algorithm development. *Fifth*, and above all, the patient must remain at the centre of every governance decision—the ultimate beneficiary, the ultimate rights-holder, and the ultimate measure of whether governance has succeeded. Ms. Prabhakar concluded by expressing the conviction that the collective expertise assembled in this session—spanning digital infrastructure, multilateral policy, national research stewardship, implementation science, clinical practice, and WHO's global governance leadership—represents not merely the diagnosis of a governance challenge, but the nucleus of its solution. The imperative now is to translate this intellectual capital into *measurable institutional action, cross-border collaboration, and tangible improvements in health outcomes for the populations that health systems exist to serve*.

Thematic Session 06

HRH4HSR: Do We Need a National Competency Framework and Reforms on Continued Professional Education?



SPEAKERS' DETAILS

Prof. (Dr.) Bhuputra Panda

Professor, KIIT-DU; Senior Advisor,
ACCESS Health International
Moderator

Prof. (Dr.) Wanicha Chuenkongkaew

Faculty of Medicine, Siriraj Hospital,
Mahidol University, Thailand
Panelist

Dr. N. Krishna Reddy

CEO, ACCESS Health International
Panelist

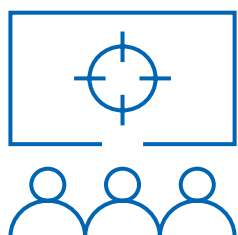
Dr. Neha Dahiya

Scientist-D, Delivery Research Division, ICMR- New Delhi
Panelist

Dr. Priyanka Shrestha

Public Health Professional, WHO SEARO
Panelist

Context & Session Objectives



The session opened with a powerful framing of the central role of human resources in shaping an effective and resilient healthcare system across the globe. It was emphasized that **human resources form the crux of any health system, and in their absence, the very idea of a functional health system ceases to exist.** Moving beyond infrastructure and technology, the discussion foregrounded the human element as the driving force that animates service delivery, policy implementation, and system responsiveness.

The **resilience of health systems is inseparable from the competencies, adaptability, and continuous learning of the workforce that sustains them.** In an era marked by complex and evolving health challenges—ranging from pandemics to the growing burden of non-communicable diseases—the ability of health systems to respond effectively depends on a workforce that is not only technically skilled but also capable of adapting to changing contexts.

This framing positioned **Human Resources for Health (HRH)** as a critical pillar of **Health Systems Resilience (HSR)**. The discussion underscored that investment in infrastructure or digital technologies alone is insufficient unless matched by investments in developing a workforce that is competent, flexible, and continuously evolving.

The session then posed a critical and reflective question to the audience: **“Is our current health workforce adequately equipped to build and sustain resilient health systems?”**

This question served as a guiding thread for the session, prompting a deeper examination of existing gaps in professional education, competency development, and continuing professional education systems. The session centered around fragmentation and inconsistency in professional education and competency standards, emphasizing the urgent need for a national competency framework aligned with evolving workforce demands. It highlighted that traditional education systems remain qualification-driven rather than competency-driven, limiting their ability to produce professionals capable of addressing real-world challenges. Globally, there is a shift toward competency-based frameworks, where learning outcomes are defined in terms of what professionals can do, rather than what they know.

The session aimed to:

- To explore gaps in current professional education and training systems
- To discuss the feasibility of a national competency framework for HRH
- To assess reforms required in Continuing Professional Education (CPE)
- To align strategic priorities with the felt needs and global standards

Context Setting and Opening Remarks by Prof. (Dr.) Bhuputra Panda

Dr. Bhuputra Panda
KIIT; ACCESS Health International



Prof. Panda situated this session within earlier deliberations on governance, digital health transformation, **provisioning and delivery of healthcare services**, and emphasized that such discussions often overlook the most complex and critical component of the system—**human resources for health (HRH)**.

He elaborated that, unlike other components of the health system such as infrastructure, financing, or technology, human resources are inherently shaped by **emotions, motivations, and individual characteristics** which operate across multiple interconnected dimensions—from the individual level to the organizational, societal, and regulatory domains. This multi-layered nature makes HRH not only complex but also central to establishing a resilient health system.

Prof. Panda further reflected on how the discourses around HRH have evolved over time, and over the past decade, an increasing role of the private sector in healthcare delivery, coupled with the rapid expansion of private educational institutions

for health professionals, has transformed the landscape of HRH. The number of institutions such as medical, nursing, and allied health colleges has nearly doubled since 2014, fundamentally altering the ecosystem of health workforce production and training. This shift has introduced new opportunities but also new challenges, particularly in ensuring standardization, quality, and accountability across a diverse and rapidly expanding ecosystem.

He highlighted a critical gap in the current system—the absence of mechanisms for continuous competency assessment across the professional lifecycle. While entry into health professional education is highly regulated through competitive examinations, he questioned whether we have mechanisms to ensure continued assessment of competencies during the professional journey.

This observation highlighted a systemic weakness, where competency assurance is largely front-loaded at the point of entry, with limited structured processes for monitoring, evaluating, and enhancing competencies throughout a



professional's career. He emphasized that this is not an issue unique to India but is prevalent across many low- and middle-income and developing economies, where health systems are simultaneously grappling with multiple competing priorities. He further noted the need for establishing a comprehensive national competency framework that spans the entire professional lifecycle—from graduation to retirement. Such a framework would ideally enable continuous tracking and development of competencies at national, sub-national, and regional levels.

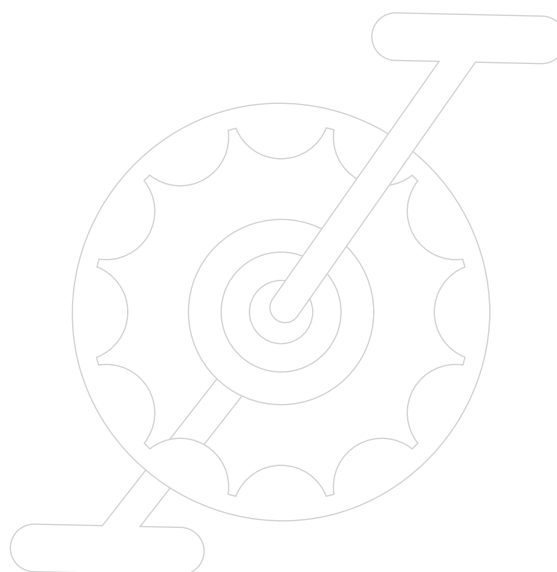
The discussion was brought back to a powerful, patient-centered perspective. He emphasized that despite the complexity of discussions around workforce planning, competency frameworks, and career pathways, the primary stakeholder remains the patient, and all efforts must ultimately be aligned towards improving patient outcomes and ensuring high-quality care.

Given this evolving complexity, he emphasized the need for multi-stakeholder perspectives in addressing HRH challenges. To facilitate such a comprehensive dialogue, the session brought together a panel of experts from diverse domains, including policy, academia, service delivery, and regulation, each contributing unique insights into different dimensions of human resources for health.



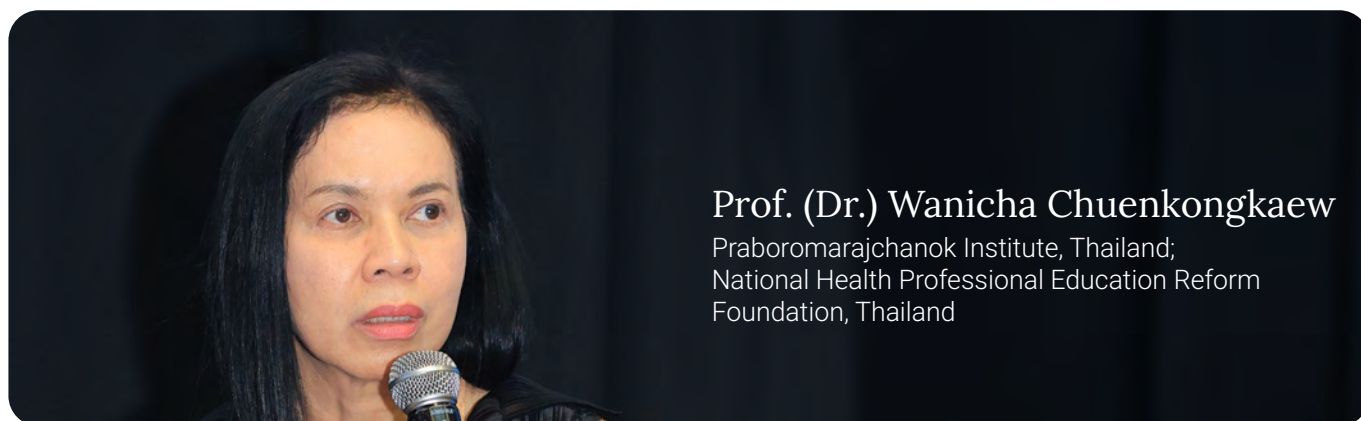
Of all the building blocks of the health system, the most complex is human resources for health, as this is the only building block that deals with emotions. They operate across a continuum—from societal to organizational to regulatory dimensions.

Dr. Bhuputra Panda



Highlights from Individual Presentations/Talks

“Do We Need a National Competency Framework and Reform on CPD?” by Prof. (Dr.) Wanicha Chuenkongkaew



Prof. (Dr.) Wanicha Chuenkongkaew

Praboromarajchanok Institute, Thailand;
National Health Professional Education Reform
Foundation, Thailand

Dr. Wanicha grounded her presentation in the World Health Organization’s global competency framework for Universal Health Coverage (UHC), which outlines core domains such as people-centeredness, decision-making, collaboration, communication, and professional conduct. While these competencies provide a foundational structure, she emphasized that they were conceptualized largely in the pre-pandemic era and are now being tested by rapidly evolving health system realities.

A major part of the discussion focused on the drivers of change reshaping health workforce competencies: technological advancement and cultural transformation, including the democratization of health access and changing patterns of health literacy, where individuals are increasingly informed, engaged, and being made proactive about their health. These changes further reinforce the need for redefining competencies in alignment with system realities.

She underscored the growing importance of Primary Health Care (PHC) as the foundation for achieving UHC. Drawing from examples such as Thailand, she illustrated how strong PHC systems—anchored in community-level care, referral linkages, and integrated service delivery—can ensure equity, accessibility, and cost-effectiveness, and overcome systemic challenges. She emphasized that primary health care is the foundation of UHC but it requires a workforce trained for community-oriented, integrated care.

Moving beyond traditional competency domains, she highlighted a set of emerging competencies required for the future health workforce and emphasized lifelong learning and reflective practice, rather than one-time training interventions.

To assess the effectiveness of such learning, she emphasized that meaningful evaluation must reach the highest level—demonstrating tangible benefits to communities and health systems. She strongly

advocated moving from time-based training models to outcome-based approaches, where progression is determined by demonstrated competencies rather than duration of study.



Competency today is as much about empathy, communication, and reflection as it is about clinical expertise.

Prof. (Dr.) Wanicha Chuenkongkaew



Dr. N. Krishna Reddy on Reforming Health Professional Education for People-Centered and Integrated Care Systems

Dr. N. Krishna Reddy
ACCESS Health International



Dr. Reddy approached the discussion from a dual perspective—as a clinician and as a health system specialist who was responsible for designing healthcare delivery models and training the workforce in secondary and tertiary levels of care. He began by posing a fundamental question: Is the current health professional education system ‘fit-for-purpose’ in addressing contemporary health needs? This question framed his critique of existing models and his call for systemic reforms.

He structured his argument around two critical stages of professional development: Pre-service education (formative stage) and In-service learning and continuous professional development. At the formative stage, he highlighted that current education systems focus heavily on defining the knowledge and technical skills required for professional certification. However, they often neglect a crucial dimension—the value systems that underpin professional practice, such as empathy, ethics, and responsibility toward patients.

A major critique of existing education systems was their continued reliance on a century-old model of medical education, rooted in the Flexner Report paradigm, which emphasized hospital-based, curative care. The speaker argued that despite significant shifts in health system needs, education systems have not evolved accordingly. He emphasized that modern healthcare requires a continuum of care approach, spanning Health promotion, Disease prevention, Curative care, and Palliative care.

Building on this, the speaker advocated for a shift from patient-centered to people-centered care, emphasizing that health professionals must engage not only with patients but also with healthy populations, focusing on prevention and health promotion.

A central theme of the presentation was the need to train professionals within integrated healthcare delivery systems, rather than isolated hospital settings. He argued that current training fails to capture the continuity of care, as students are rarely exposed



to what happens before hospital admission or after discharge. This approach would enable a deeper understanding of real-world care pathways and system functioning, addressing a major gap in current education.

He further emphasized the need to redefine competencies beyond clinical skills, identifying several additional domains such as Economic competencies, Behavioral and communication skills, social competencies, and Technological competencies. He pointed out that current systems lack foresight in anticipating future competency needs, particularly in the context of rapidly evolving technologies.

He reiterated the previous speaker's words and stressed that learning does not end with graduation—rather, it begins there. Health professionals must engage in continuous, lifelong learning, given the rapid expansion of knowledge and changing clinical practices.

He raised a critical concern regarding the absence of structured mechanisms to ensure that professionals continuously update and maintain their competencies. He underscored the urgent need for systems that ensure ongoing competency assurance for patient safety. Drawing a powerful analogy, he compared health professionals to equipment in a hospital that requires regular maintenance to function safely and effectively.

The speaker called for two-dimensional reforms: Reforming pre-service education to align with integrated, people-centered care systems and institutionalizing lifelong competency development, ensuring continuous learning and skill updating. He also emphasized the importance of scientific validation of educational reforms, arguing that changes in training systems must be rigorously evaluated for their impact on patient outcomes.

Highlighting opportunities for innovation, he noted that policy environments such as the National Education Policy 2020 provide flexibility to experiment with new models of education. However, he stressed that such innovations must be systematically tested and demonstrated before scaling. He concluded by emphasizing the importance of evidence-based policy advocacy, where successful pilot interventions in education reform can be used to influence broader systemic change.



Healthcare is no longer just curative—it spans the entire life cycle from promotion to palliation. We must ask whether our current medical education system is fit for the health needs of the population.

Dr. N. Krishna Reddy



“Reforms on Continued Professional Education: How Can the Health Workforce Continue to Perform and Find Purpose in Their Work?” by Dr. Neha Dahiya



Dr. Neha Dahiya

Indian Council for Medical Research

Dr. Neha Dahiya began by reinforcing a recurring theme of the session—human resources as the most critical yet most complex component of the health system, primarily because it involves behavior change, which is inherently difficult to achieve and sustain. Framing her presentation around Continuing Professional Education (CPE), she highlighted a fundamental mismatch between evolving health system needs and the current education and training approaches. She pointed out that existing CPE systems are largely episodic, theory-based, and compliance-driven, focusing more on fulfilling requirements than on improving real-world performance.

Drawing lessons from the COVID-19 pandemic, she highlighted that even trained professionals often lacked the necessary public health and emergency response skills, exposing critical gaps in competency development. A particularly important insight was the need to shift from reactive to proactive training approaches, especially in the context of emergencies.

This underscored the urgent need to reform CPE systems to make them more responsive, practical, and aligned with real-world challenges. The speaker emphasized that CPE should be understood as a continuous, systematic process of learning that extends beyond formal education and includes both formal and informal modes of knowledge acquisition. Given the rapid pace of technological advancements and expanding medical knowledge, she argued that lifelong learning is no longer optional but essential.

A central recommendation was to shift from credit-based systems to competency-based, milestone-driven frameworks, similar to those adopted in countries such as the UK and the US. These systems assess professionals based on their ability to perform in real-world settings, rather than merely completing prescribed activities.

She also highlighted the importance of embedding learning within the workflow, particularly in contexts

like India, where healthcare professionals face heavy workloads and time constraints. Instead of separating training from practice, learning should occur “while working”, integrated into daily clinical and public health activities. To illustrate this, she shared an example of a clinical decision support system (CDSS) developed for capacity building of Community Health Officers (CHOs), particularly in mental health care. While traditional training provided theoretical knowledge, the CDSS enabled providers to make real-time decisions at the point of care, including diagnosis, management, and referral pathways.

The speaker also addressed the role of emerging technologies, particularly artificial intelligence, noting that while AI may not replace healthcare professionals, it will significantly transform learning, decision-making processes, and clinical workflows. She posited AI would address issues of equity and access, particularly for rural and underserved areas where access to quality training remains limited, and help democratize CPE.

She concluded by reinforcing that meaningful reform in continuing professional education requires a shift toward competency, integration, incentives, and impact-oriented evaluation, ensuring that learning translates into improved quality of care and stronger health systems.



In a rapidly evolving knowledge ecosystem, continuous learning is essential to maintain quality of care.. Without incentives and purpose, continuous learning becomes a formality rather than a meaningful process..

Dr. Neha Dahiya



Building a Fit-for-Purpose Health Workforce- A Regional Perspective by Dr. Priyanka Shrestha



Dr. Priyanka Shrestha
WHO South-East Asia Regional Office (SEARO)

Dr. Priyanka began by situating the discussion within a broader historical and global context, emphasizing the need to reflect on how health workforce development has evolved over time. Referring to the 2006 World Health Report, she noted that the greatest shortages in human resources for health (HRH) were historically concentrated in the WHO South-East Asia region.

While acknowledging significant progress since then, she highlighted a paradox: despite the massive expansion in the production of health professionals, including countries like India producing over 100,000 doctors annually, critical questions remain about whether this workforce is truly “fit for purpose.”

She emphasized that the contemporary health system is undergoing rapid transformation driven by Demographic transitions (aging populations), Epidemiological shifts (rise of NCDs), Climate and humanitarian challenges, Technological disruptions, and increasingly informed and empowered populations. In this evolving context,

the central question becomes: “How can health professional education keep pace with such dynamic and complex changes?”

She pointed out that the shift is towards technology-driven, specialized care, often at the cost of compassion, general practice, and equitable service delivery. She argued that incremental reforms are insufficient, calling instead for a fundamental rethinking—or “rebirth”—of health professional education systems.

Key strategies she outlined include:

- Integrating health humanities into curricula to situate healthcare within social, cultural, and historical contexts for restoring empathy and humanism in care delivery.
- Introducing social prescribing, which involves recommending non-clinical, community-based interventions.
- Transition from individualistic practice models to collaborative, team-based care. This shift supports shared decision-making, multidisciplinary collaboration, and improved continuity of care.

- d. Training on public health preparedness and competencies to build a workforce that is capable of addressing both clinical and population-level health challenges.
- e. Building a workforce that is technologically adept and adaptable but without losing sight of the human dimension.

She concluded by emphasizing that the transformation of health systems depends on building a workforce that is not only technically competent, but also context-aware, compassionate, collaborative, and future-ready.



Medical knowledge must be grounded in cultural and social realities—not treated as universally uniform.

Dr. Priyanka Shrestha





Highlights from Panel Discussion

The concluding segment of the session, comprising moderator reflections and an interactive question-and-answer discussion, brought together diverse perspectives on the evolving challenges of human resources for health (HRH). While earlier speakers had outlined structural reforms in health professional education and continuing professional development, this final segment deepened the discourse by situating these issues within broader systemic, societal, and behavioral contexts. It highlighted that the challenges in HRH are neither linear nor isolated; rather, they are embedded within complex interactions between education systems, labor markets, health system incentives, and societal values.

A central theme that emerged was that improving health workforce performance requires moving beyond technical fixes toward a more comprehensive understanding of motivation, professional identity, and system-level incentives.

Rural–Urban Divide and Workforce Distribution

A major concern discussed was the persistent shortage of health professionals in rural, tribal, and underserved regions. Despite producing a large number of medical graduates annually, many public health facilities continue to experience vacancy rates as high as 25–30 percent. This paradox reflects a misalignment between workforce production and deployment.

Participants noted that medical graduates are often reluctant to work in rural areas due to a combination of factors, including poor infrastructure, limited career growth opportunities, professional isolation, and lower perceived quality of life. At the same time, the health system does not sufficiently incentivize or support rural service.

The discussion suggested that addressing this issue requires both structural and motivational interventions. Exposure to community settings during training, improved working conditions, and clear career pathways for rural practitioners were identified as potential strategies. However, it was also acknowledged that deeper cultural perceptions about status and success play a significant role in shaping career choices.

Exam-Oriented Learning and Erosion of Competencies

A critical issue raised during the discussion was the increasing dominance of exam-oriented learning in medical education. Participants observed that students, even during their early years of training, are primarily focused on preparing for postgraduate entrance examinations. This has led to a narrowing of learning objectives, where success is defined by performance in multiple-choice examinations rather than by clinical competence or patient-centered skills.

This phenomenon is driven by intense competition for limited postgraduate seats and by the perception that specialization is essential for career survival. As a result, students prioritize exam preparation over developing core competencies such as clinical reasoning, communication, empathy, and ethical practice.

The panel emphasized that this is not merely a problem of student motivation but a reflection of systemic pressures. The structure of medical education, combined with labor market dynamics, creates strong incentives for exam-focused learning. Addressing this issue, therefore, requires reforms in both education and workforce policies.



Misaligned Incentives in Health Systems

One of the most important insights from the discussion was the role of financial and structural incentives in shaping professional behavior. The current health system tends to reward procedural and specialized care more than primary care and diagnostic services. For example, a complex diagnostic consultation may be undervalued compared to a procedural intervention, even though both require significant expertise and time.

This imbalance creates a powerful incentive for specialization and contributes to the declining interest in generalist practice. It also influences how students allocate their time and effort during training, reinforcing the cycle of exam-oriented learning and specialization.

The panel argued that meaningful reform must address these underlying incentive structures. Payment systems, insurance models, and career pathways need to be aligned with the broader goals of equity, efficiency, and quality of care.

Reinforcing the Centrality of Primary Care

The discussion strongly emphasized the need to reorient health systems toward primary care. Participants noted that in many settings, patients bypass primary care facilities and directly seek care at tertiary hospitals. This not only overburdens higher-level facilities but also undermines the role of primary care providers.

Examples from countries such as the United Kingdom were cited, where structured referral systems ensure that patients first consult general practitioners before accessing specialist care. Such models help strengthen primary care, improve system efficiency, and enhance continuity of care.

The panel suggested that similar approaches could be adapted to other contexts, including India, with appropriate modifications. Strengthening primary care would also require elevating the status and remuneration of generalist practitioners, thereby making it a more attractive career option.

Expanding the Scope of Competencies

Another important theme was the need to broaden the competency framework for health professionals. Traditional education systems focus predominantly on clinical knowledge and skills. However, modern healthcare delivery requires a much wider set of competencies, including management, leadership, communication, teamwork, and an understanding of health economics and insurance systems.

The discussion highlighted a significant gap in training related to management competencies. Many clinicians eventually assume leadership roles within healthcare organizations but are not formally trained for these responsibilities. Similarly, there is limited exposure to quality improvement processes and the functioning of health insurance systems, even though these increasingly influence clinical practice.

The panel emphasized that these competencies should not necessarily be introduced all at once during undergraduate training. Instead, they should be integrated progressively across different stages of a professional's career through structured continuing professional development.



Global Nature of HRH Challenges

An important perspective was provided by an international participant, who noted that similar challenges are being faced in countries such as the United States and the Netherlands. Issues related to workforce motivation, competency gaps, and system inefficiencies are not unique to any one country but are part of a broader global pattern.

This observation suggests that HRH challenges are rooted in fundamental aspects of modern healthcare systems, including technological change, specialization, and evolving patient expectations. It also highlights the potential for cross-country learning and collaboration in developing solutions.

Impact of the Digital Era on Humanistic Care

The discussion also explored the implications of the digital age for healthcare delivery. While digital technologies and artificial intelligence offer significant opportunities for improving efficiency and decision-making, there is concern that they may also contribute to a decline in interpersonal skills.

Participants noted that younger generations, who are accustomed to digital communication, may find it more challenging to engage in empathetic, face-to-face interactions with patients. This raises important questions about how medical education can preserve and strengthen humanistic aspects of care.

One proposed approach is the integration of health humanities and community-based learning into training programs. Exposure to diverse social contexts and patient experiences can help develop empathy, communication skills, and a deeper understanding of patient needs.

Need for Systems Thinking and Research

The panel repeatedly emphasized the importance of adopting a systems thinking approach to HRH challenges. Health systems are complex and adaptive, with multiple interacting components. Simple, linear interventions are unlikely to produce sustainable change.

Participants highlighted the need for research that can identify key leverage points within the system. This includes studying how changes in incentives, education, or policy may lead to intended and unintended consequences. The use of simulation models and implementation research was suggested as a way to better understand these dynamics.

A particularly important gap identified was the lack of research on health professional education itself. Despite its central role in shaping the workforce, this area has received relatively limited attention compared to other aspects of health systems research.



Key Session Takeaways

- *High vacancies in public health facilities are not merely due to wrong deployment policies but also owing to a number of causes, such as poor rural infrastructure, basic amenities, and fear of professional isolation.*
- *Intense competition for postgraduate seats and “exam-culture” erodes core humanistic skills like clinical reasoning, empathy, and ethical practice.*
- *Over-rewarding procedural/specialized care while undervaluing primary diagnostics incentivizes students to abandon generalist practice in favor of specialization.*
- *A structured referral model (similar to the UK’s GP system) is the need of the hour to elevate the status and pay of primary care providers to make it a viable career path.*
- *Medical training must evolve beyond clinical knowledge to include leadership, management, and health economics. These skills should be integrated progressively throughout a professional’s career via continuing development.*
- *Workforce motivation and competency gaps are global patterns seen in both developing and developed nations, suggesting the need for international collaboration and cross-country learning.*
- *As digital communication and AI become standard, there is a risk to interpersonal skills. Training must intentionally integrate health humanities and community exposure to maintain empathetic, face-to-face patient care.*
- *Adopting a “Systems Thinking” approach for sustainable change requires identifying leverage points—specific areas where policy or incentive changes can create positive, system-wide ripples.*
- *There is a significant gap in research regarding health professional education itself. Future strategies must utilize simulation models and implementation research to understand the consequences of educational reforms.*





Call to Action

In closing, Dr. Panda emphasized that HRH is one of the most complex components of the health system because it involves human behavior, motivation, and decision-making. Unlike infrastructure or technology, human resources cannot be easily standardized or controlled. The roots of many workforce issues lie much earlier than professional training. Values such as commitment, compassion, and willingness to serve in underserved areas are shaped during early socialization and schooling days. Therefore, reforms limited only to medical education may be insufficient unless they are complemented by broader societal and educational shifts. The discussion underscored that workforce challenges must be understood across multiple levels: individual attributes, educational processes, organizational environments, and broader societal influences.

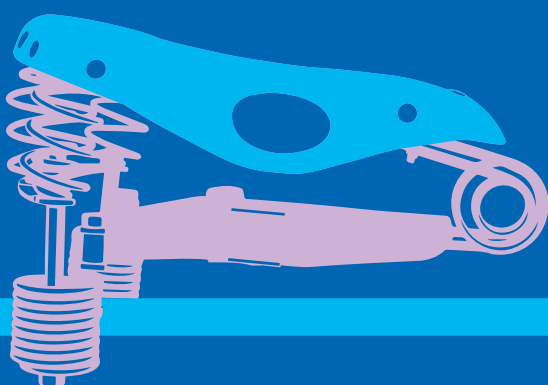
Dr. Panda summarized the discussion by emphasizing that HRH is a critical public health priority that requires sustained attention and action. The session highlighted several key directions for future work, including the need for evidence generation, interdisciplinary collaboration, and policy innovation.

It was acknowledged that the challenges discussed cannot be resolved within a single session or through isolated interventions. Instead, they require long-term, coordinated efforts involving multiple stakeholders, including educators, policymakers, researchers, and practitioners.

The discussion concluded with an optimistic note and recognition that while the problems are complex, these are also widely shared across countries and regions. This offers an opportunity for collective learning and innovation. Consensus was built on the fact that mere introduction of reforms around the peripheral blocks may not be sufficient for developing a competent and 'fit-for-purpose' health workforce, but we need to fundamentally reimagine health professional education, competency development, and deployment strategies in ways that are aligned with the evolving needs of the health sector.

Thematic Session 07

Leveraging AI and Digital Health to Enhance Value for Money and Health System Efficiency: Implications for Health Financing



SPEAKERS' DETAILS

Mr. Maulik Chokshi

Global Director, Health Systems Research & Policy,
ACCESS Health International

Moderator

Dr. Inke Matthauer

Health Financing Specialist,
World Health Organization, Geneva

Keynote Speaker

Mr. Ajit Kesri

Ex-Additional Chief Secretary; First Registrar,
Aadhaar, Govt. of Madhya Pradesh (Retd.)

Panelist

Dr. Manish Priyadarshi

Director - Evaluation, NITI Aayog,
Government of India

Panelist

Mr. Mitul Thapiyal

Managing Partner, Microsave Consulting

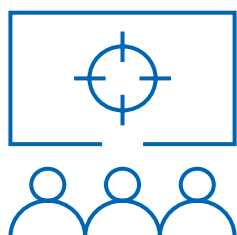
Panelist

Mr. Alok Ranjan

Senior Programme Officer, Public Finance &
Digitalisation, Bill & Melinda Gates Foundation

Panelist

Context & Session Objectives



Health systems worldwide are confronting a compounding financing crisis. The post-COVID fiscal environment has contracted global health financing flows significantly, with one of the largest bilateral contributors reportedly shifting its priorities and reducing available funding by nearly 60%. Simultaneously, geopolitical conflicts continue to draw on state-level resources, and political pressure for defence spending leaves health budgets perpetually constrained. In this environment, the conventional response, i.e., advocating for larger health budget allocations, is both politically impractical and structurally insufficient. The imperative has shifted: it is no longer enough to ask for more money; the system must learn to use what it already has with far greater precision and accountability.

India's situation reflects this tension acutely. Government of India health expenditure is significant in nominal terms, yet budget utilisation analyses suggest that approximately 20% of the health budget goes unspent in any given year because of systemic dysfunctions in how funds flow, how expenditure is reported, and how accountability is structured. At the same time, an estimated 60% of health spending may be absorbed by low-value care: unnecessary consultations, diagnostics, and procedures that produce little clinical benefit. These two facts together suggest that the efficiency opportunity within India's existing health financing envelope is substantial.

It is within this context that the session was convened. Moderator Maulik Chokshi framed the central question: What if artificial intelligence, digital health platforms, and digital public infrastructure could make every rupee in the health system work harder?

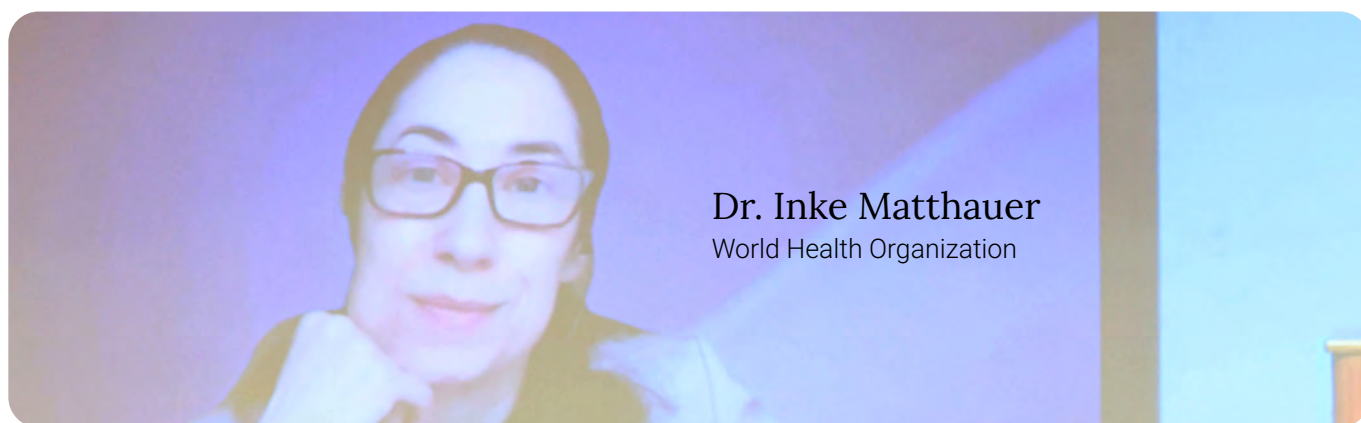
The session brought together finance specialists, technologists, public administrators, and international health financing experts to explore how AI and digital transformation can serve not merely as clinical tools, but as instruments of financial efficiency, equity, and sustainability across the full lifecycle of health financing.

The session aimed to:

- To map the range of digital technologies currently deployed across health financing functions globally and assess their potential and limitations in the Indian context
- To examine concrete innovations in public financial management that can reduce leakage and improve expenditure efficiency
- To identify the governance and institutional preconditions required for these innovations to scale
- To surface the unresolved policy, regulatory, and equity questions that must be addressed before AI and digital transformation can reliably serve universal health coverage goals

Key Takeaways from Keynote Presentation

Digital Technologies and Artificial Intelligence for Health Financing: Global Overview and Policy Implications



Dr. Inke Matthauer opened with a foundational conceptual distinction that structured her entire presentation: the difference between digitization, which moves an existing manual process onto a digital platform without changing the underlying logic, and digitalization, which actively leverages digital technologies to transform business processes and unlock entirely new functions. This distinction matters enormously for policy: the promise of efficiency and equity gains lies exclusively in digitalisation, not in digitisation.

She mapped digital technologies across the three canonical health financing functions, i.e., (i) revenue raising, (ii) pooling, and (iii) purchasing, noting that purchasing is the domain with the densest deployment of digital tools globally, a pattern reflected in both low and middle-income country experience. She identified a wide spectrum of tools in active use: web-based platforms, mobile applications, digital wallets, biometric identification, machine learning and big data analytics, generative AI for revenue forecasting and strategy

development, and blockchain for secure claims storage and fraud prevention.

A critical contribution was the Estonia case study, which illustrated how digital claims processing is not merely an administrative improvement but a platform that enables a cascade of advanced strategic purchasing functions. Estonia's system demonstrated that digitised claims can power performance-based payment programmes, automated contracting between the purchasing agency and hospitals, real-time monitoring of contract execution against volume and budget ceilings, and patient risk stratification for enhanced care management. None of these functions is feasible in a manual claims environment, meaning that countries relying on paper-based or hybrid claims systems are not simply less efficient; they are structurally incapable of implementing modern purchasing. Matthauer was equally candid about failure modes: digital technologies inadequately designed or misaligned with the digital ecosystem can produce parallel manual-digital workflows that are more costly than either alone. More subtly, digital technologies

may effectively serve health financing schemes that are not themselves oriented toward UHC: private and voluntary insurance schemes are often early, sophisticated adopters, in ways that can deepen fragmentation of risk pooling.

On artificial intelligence and machine learning, Dr. Matthauer presented findings from a WHO study mapping ML applications across all three health financing functions. The documented benefits, such as higher accuracy, enhanced speed, and administrative efficiency, are real but narrow. Rigorous evidence on equity effects, on what happens when algorithms encode biased data, and on whether AI tools genuinely advance UHC objectives rather than simply making existing systems faster, is almost entirely absent.

She closed with three unresolved governance questions:

1. What specific regulatory provisions should govern AI use in health financing?
2. How much digitalisation do societies actually want, and who is making that decision?
3. Whether the current trajectory of digital transformation is being driven by public interest or private market logic.



Digital technologies can simplify and support health financing tasks, but inadequate design or implementation can also create additional costs and inefficiencies.

Dr. Inke Matthauer



Highlights from Panel Discussion

Dr. Manish Priyadarshi
NITI Aayog, Govt. of India



The Public Finance Efficiency Problem: Spending What We Have, Better

The panel opened with a direct challenge to the conventional framing of India's health financing problem as a resource-gap problem. Mr. Mitul Thapiyal (Microsave Consulting) presented data suggesting that approximately 20% of India's health budget goes unspent annually. The deeper structural issue is how government expenditure is measured: money transferred to implementing agencies is recorded as 'spent' even when it sits unused in commercial bank accounts. He described this as a paradox of 'plenty and scarcity', some agencies sitting on unspent allocations while frontline facilities face genuine shortfalls, with no mechanism for decision-makers to see the complete picture in real time. Initiatives such as SPARSH and SNA-SPARSH are beginning to improve fund visibility, but the systemic problem persists.

Mr. Alok Ranjan (Gates Foundation) reinforced this analysis, identifying the inability to connect physical and financial realities as the core public financial management failure. Systems exist, such as PFMS for fund flows, health information management systems for service delivery data, and claims management systems for payments, but their inability to communicate

means that physical and financial truths remain perpetually disconnected. The downstream effects are visible as delayed payments to providers, medicines unavailable at the point of need, and resource misallocation that cannot be corrected in real time. **Dr. Manish Priyadarshi (NITI Aayog) added a prioritisation dimension: with public resources finite and declining in per-capita terms, the government must develop a triage logic for resource allocation – distinguishing the essential, the desirable, and the aspirational – rather than treating all expenditure heads as equally urgent.**

A significant intervention came from the audience. Dr. Reddy observed that the session had focused on budget allocation and utilisation efficiency while missing what he characterised as the largest efficiency reservoir in the system.

"The major expense is in low-value care, the unnecessary consultations, the tests not required, the procedures not required. That accounts for 60% of health expenditure. If we can unlock that wasted expenditure, we do not require an extra budget."

The moderator affirmed this, noting prescription data showing that of 7–8 medicines typically prescribed per consultation, only 2–3 are

genuinely indicated, a demand-side efficiency gain that clinical decision support tools integrated with digital systems can meaningfully address.



We should try to understand what is essential, what is desirable, and what is aspirational. We should think in terms of spending smarter—not spending lesser or spending more.

Dr. Manish Priyadarshi





Mr. Mitul Thapiyal
MicroSave Consulting

Just-in-Time Fund Flows and Smart Payment Infrastructure

Mitul Thapiyal presented two innovations in public financial management being developed in partnership with state governments. The first is Just-in-Time (JIT) fund flow: a system in which money moves from the government treasury only when a payment has to be made to a service provider, goods supplier, beneficiary, or health worker. No intermediate parking of funds in implementing agency accounts. He described it as functioning like a credit card: the implementing agency receives a spending eligibility up to a sanctioned ceiling, but physical money moves only at the point of a verified transaction. This model has been piloted in Odisha across select schemes and is being expanded. He was careful to note that the Government of India's Financial Rules technically enable this model; the barrier is prevailing practice, not law.

The second innovation, smart payments or smart contracts, addresses the question of who certifies that a ground-level event has occurred to trigger payment. Thapiyal provided cross-sectoral examples now operational: drones measuring road construction completion triggering payments, satellite imagery verifying

crop type for agriculture compensation, and AI-validated photographs confirming field worker attendance. In health, analogous applications, AI-assessed photographs for stunting and wasting measurement, geo-tagged inoculation confirmation, could enable near-real-time payment to frontline health workers, making JIT fund flow functionally viable. Mr. Thapiyal was explicit that this is not merely a technology question: changes in practices, procedures, and in some cases minor legislative adjustments are equally required.

Mr. Ajit Kesri (former Additional Chief Secretary, Madhya Pradesh) endorsed the smart contract concept, framing it as an application of programmable logic to the RBI's Central Bank Digital Currency. The e-Rupee was tested in Madhya Pradesh for agricultural implements reimbursement, a process that required six months of coordination with Pine Labs, ICICI Bank, NPCI, and RBI, succeeding substantially through personal relationships. Mr. Kesri was candid that scaling this requires simultaneous domain expertise in government scheme design and technology, a combination that is rare and must be deliberately cultivated. He also introduced outcome-based funding, noting that the Social Stock Exchange, operationalised under SEBI's 2022 guidelines, has seen its first



approved outcome-based funding scheme (Madhya Pradesh, January 2025). He and Dr. Priyadarshi both advocated for expanding this mechanism to health, with TB, maternal health, and nutrition cited as ready use cases.



Money should move out of the government treasury only when it has to be paid to someone. There should not be any intermediate parking of funds.

Mr. Mitul Thapiyal



Mr. Alok Ranjan
Gates Foundation



Interoperability, Data Standards, and the Shared Language Problem

The single most persistent theme across all panellist contributions was interoperability, the ability of different digital systems to communicate with each other. Alok Ranjan (Gates Foundation) offered the most systematic analysis of why this remains unresolved despite being technically achievable. He identified three foundational elements: shared identifiers (ABHA IDs, provider and facility registries) that allow services, claims, and payments to be tied to the same entities; **data standards - a shared language that allows systems to exchange information without point-to-point customisation; and a data exchange layer through which systems interact rather than through costly, fragile bilateral integrations.**

Mr. Ranjan developed the UPI analogy to make the scaling argument precise. The entire Indian banking ecosystem could have been connected through one-to-one integrations between banks. It was not, because such integrations cannot scale. UPI succeeded by defining a shared data standard that any compliant system can speak to. This logic, he argued, must govern digital transformation in health financing and public financial management. Dr. Inke Matthauer reinforced this from a global perspective, observing that India's proliferation of digital systems has largely replicated the administrative silos that existed before digitalisation. She characterised interoperability not as a technical aspiration but as a governance question. Therefore,

defining standards is the first step, but creating incentive-compatible mechanisms for their adoption is the harder and more consequential task.

Dr. Priyadarshi added that the interoperability challenge extends beyond health to the entire development architecture, linking health, finance, education, climate, and nutrition data, and that this cannot be achieved without an institutional mandate for convergence. He proposed a dedicated convergence function, either within NITI Aayog or as a new institutional structure, with the mandate and authority to enforce shared data standards and coordinate resource flows across ministerial boundaries. **Mr. Ajit Kesri offered a complementary structural observation: Aadhaar's individual identifier architecture creates a family linkage gap, since most health and welfare entitlements are family-based.** Madhya Pradesh's Samagra database, assigning a unique family code to 95–99% of the state's population, was presented as a replicable model for closing this gap.



Integration very often does not scale, but interoperability does.

Mr. Alok Ranjan



Mr. Ajit Kesri

Ex Additional Chief Secretary,
Govt. of Madhya Pradesh, India



Consumer Visibility, Citizen Access, and the Demand Side

The moderator pushed the panel to address how citizens and patients can become active participants in the digital health financing ecosystem, not merely passive beneficiaries. Mr. Mitul Thapiyal observed that political will for transparency is growing, driven by citizen expectations shaped by social media and broader accountability culture. He argued that the barrier is not political will but data structure: government data systems are organised in ways that make a single source of truth nearly impossible, the same question yields different answers from different parts of the same department, or from the same department at different times. AI's particular advantage is its capacity to work with unstructured data, producing coherent outputs from heterogeneous sources, removing the dependence on pre-structured APIs, and enabling cost-effective data exposure to the public. He described this as the proximate goal that digital investments should be structured to achieve.

Mr. Alok Ranjan added that digital systems have often failed frontline health workers, the people who were supposed to benefit most from efficiency gains, because they complicated work rather than simplifying it. Duplicate data entry across multiple

parallel platforms has created an administrative burden at exactly the level where capacity is most constrained. He framed incentive compatibility, i.e., designing systems that genuinely reduce frontline worker burden rather than adding to it, as the single most important determinant of whether ground-level adoption occurs.

Mr. Ajit Kesri made the further point that India's current regulatory orientation toward the private health sector, even where government schemes channel patients to private providers, creates friction that impedes effective partnership. The mindset shift required is from government as regulator to government as facilitator.



We have to stop being regulators and start looking at ourselves as facilitators.

Mr. Ajit Kesri





ABDM Architecture, Investment Priorities, and the Path to Scale

The panel's closing exchange focused on where investment should be directed for India's digital health infrastructure to realise its stated ambitions. Mr. Alok Ranjan argued for a two-level investment logic: first, building the shared digital rails, including registries for identification, health information exchange systems, and individual identifiers that all health system actors can jointly build upon; second, ensuring that private actors have the right incentives to build on these rails through an open, standards-based ecosystem. **The critical design principle is standards-based openness: it does not matter who builds any given system as long as it speaks the shared language.** He was explicit that in public finance systems, integration typically does not scale, but interoperability does, and procurement systems should embed this distinction as a design requirement.

The moderator Mr. Maulik Chokshi assessed ABDM's architecture. Three interface types comprising registries, a consent manager, a claims exchange, and a discovery interface are directionally correct. The design logic of deconstruction rather than centralisation is appropriate; the gap is that it remains at the design and early-implementation stage, with significant capacity building, contract reform, and institutional commitment still required. Mr. Ajit Kesri added a methodological observation about the nature of successful transitions: "The transition has to be abrupt. It cannot be in phases. There are many things that do not happen in phases, and the politician was the first person who was very happy about it."

The evidence from Madhya Pradesh's shift from manual to satellite-based crop damage estimation suggests that decisive, politically-backed transitions outperform cautious phasing,

a principle with direct implications for health scheme digitalisation.

Mr. Mitul Thapiyal closed with a forward-looking observation about AI's ultimate potential: enabling a shift from paying for health services to paying for health outcomes, personalised treatment protocols at reduced cost, expanded access, and a reorientation of incentive structures toward what the system is ultimately supposed to produce. He paired this with a caution: **all of this requires data, and data requires governance. The discourse on digital public infrastructure has repeatedly missed the unglamorous but essential work of building registries and data standards, the data layer beneath the DPI stack.** Countries in the Global South investing in AI risk repeating fragmentation mistakes of the digitisation era if this foundational layer is skipped.



How do digital identifiers, digital payment systems, and digital data-exchange systems link to each other so that we can scale up and achieve efficiency gains much larger than those of each system alone?

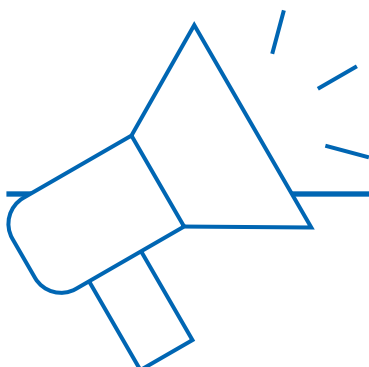
Dr. Inke Matthauer





Key Session Takeaways

1. *The efficiency frontier is inside the existing budget, not beyond it.* With approximately 20% of India's health budget unspent annually and an estimated 60% of expenditure absorbed by low-value care, the case for spending more before spending existing money better is analytically weak. Efficiency is the prior obligation.
2. *Technology enables but cannot substitute for institutional reform.* Every panellist converged on this point: digital tools amplify governance systems but cannot fix governance failures. Technology is part of the solution, but it can bring efficiency; it cannot change practices. Practice change, incentive redesign, and political will are preconditions for technology to work, not its products.
3. *Interoperability is the defining bottleneck, and it is a governance problem, not a technical one.* India has built numerous digital systems across health and finance. They do not communicate. Resolving this requires a shared data standards mandate, institutional authority to enforce it, and incentive-compatible mechanisms for adoption at all levels of the system.
4. *Integration does not scale; interoperability does.* The UPI model, a shared standard that any compliant system can speak, is the correct architectural paradigm for digital health financing transformation. One-to-one system integrations are costly, fragile, and cannot scale across the complexity of India's health system.
5. *The data layer beneath DPI is the overlooked investment.* Registries, data standards, and privacy frameworks are foundational. Deploying AI without this layer risks replicating digitisation-era fragmentation at a new level of complexity. India and the Global South must build this layer deliberately, before, not after, AI adoption.
6. *Just-in-Time fund flow and smart contracts are operationally ready for expansion.* The Odisha JIT pilot demonstrates feasibility. AI-verified service delivery events, already operational in road construction and agriculture, provide the real-time certification mechanism that makes JIT viable in health. Programmable CBDC is the natural instrument for smart benefit delivery.
7. *The family identifier gap is a structural barrier to effective scheme delivery.* Aadhaar's individual identification does not support family-level entitlements that underpin most health schemes. Madhya Pradesh's Samagra family code system, covering 95–99% of the state's population, offers a replicable model.
8. *Abrupt digital transitions outperform phased rollouts when political will is present.* Incremental approaches produce the worst of both worlds: legacy systems not retired, new systems not adopted. The evidence from MP's satellite-based crop assessment demonstrates that decisive, politically-backed transitions are more effective than cautious phasing.
9. *Outcome-based financing mechanisms are structurally available and must be activated for health.* The Social Stock Exchange is operational. TB, maternal health, and nutrition are ready use cases for outcome-based funding. Expanding this model requires institutional champions, most credibly, NITI Aayog or the Ministry of Finance.
10. *The equity question for AI in health financing remains open and urgent.* AI's documented benefits, including speed, accuracy, and administrative efficiency, are real but narrow. Equity effects, the risk of algorithmic exclusion, and alignment with UHC objectives are almost entirely unevaluated. Regulatory frameworks and rigorous evaluation are not optional; they are the conditions for AI to serve universal health coverage rather than subvert it.



Call to Action

Moderator Mr. Maulik Chokshi closed by synthesising the panel's contributions into a coherent call to action, structured around the observation that India already possesses many of the architectural building blocks for a well-functioning digital health financing ecosystem, and that the task now is not invention but implementation, integration, and institutional will.

On digital architecture:

ABDM's design, with its emphasis on registries, consent manager, claims exchange, and discovery interface, is the right model. The immediate priority is investing in the foundational data layer: provider and facility registries, shared data standards, and interoperability protocols that allow PFMS, health information systems, and claims systems to speak a common language. Capacity building at the public and private sector levels is equally urgent.

On public finance reform:

The Just-in-Time fund flow model should be scaled from Odisha's pilot to a national framework, with NITI Aayog leading the design of the treasury infrastructure that enables state governments to honour payment triggers at any volume and time. Smart contract mechanisms linked to AI-verified ground-level events and the RBI's programmable CBDC should be developed as the payment delivery layer for health scheme benefits.

On governance:

A convergence mandate is needed to break the ministerial silo structure that prevents data sharing and resource pooling across health, finance, nutrition, and education. An AI and digital technology regulatory framework specific to health financing must be developed, with explicit provisions on data combination, algorithmic accountability, and equity assessment.



On capacity and adoption:

Digital systems must be designed for the people who use them. Human factors design, accounting for frontline worker workflows, cognitive load, and incentive compatibility, must be embedded in every digital health initiative. Incentive structures for private sector actors must reward the adoption of shared data standards.

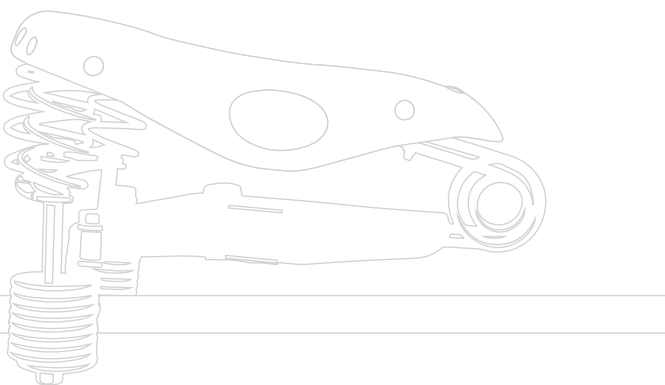
Mr. Chokshi closed with a statement of conditional optimism:



With AI, with what ICMR is doing on anonymised data pools, with states moving toward DRGs, and with all our partners working together, trajectory-wise, we are in the right direction. We need to gather steam to achieve something much faster. Viksit Bharat 2047.

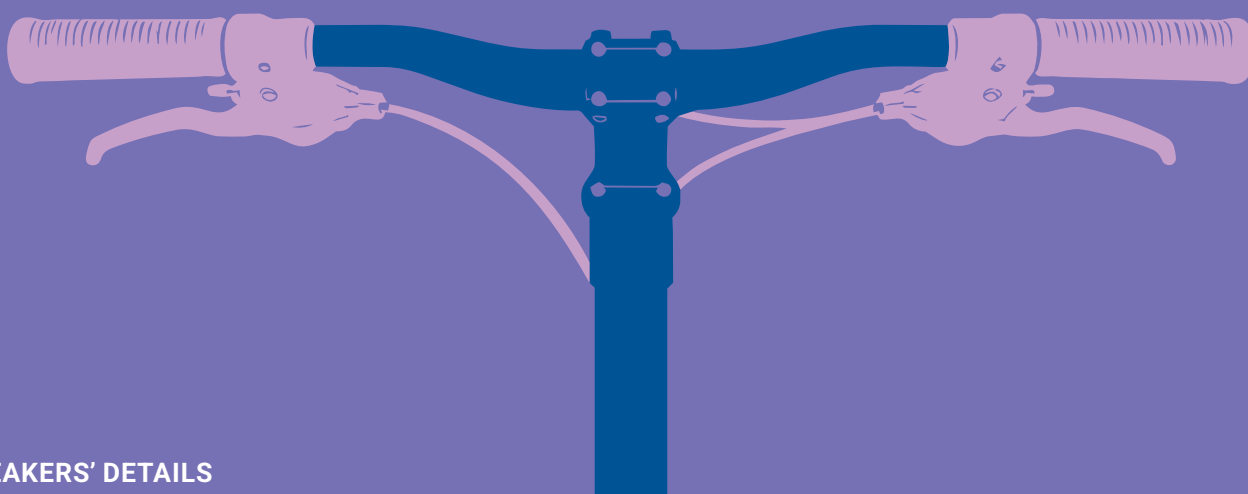


The session ended with consensus that the moment is genuinely promising, and that the window for getting the foundational architecture right, before AI deployment outpaces institutional readiness, is now.



Thematic Session 08

Building Resilient Communities to Face Health Crises



SPEAKERS' DETAILS

Dr. N. Krishna Reddy

CEO, ACCESS Health International

Moderator

Dr. Ramakrishna Prasad (Virtual)

Convener, CPHC Alliance

Panelist

Dr. Kapil Sharma

Joint Secretary,
Indigenous Development Organisation

Panelist

Dr. Shweta Singh

Technical Head - Research and Public Health,
ACCESS Health International

Spotlight Presenter

Mr. V.R. Raman

National Convener, Public Health Resource Network

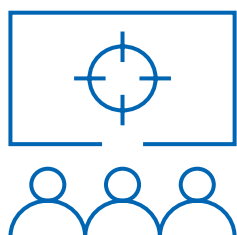
Panelist

Mr. Ashish Manwar

Program Manager - Innovation,
The Resilience Collaborative

Panelist

Context & Session Objectives



There is a growing understanding that **communities** are not just beneficiaries of health programs, but **partners** who can actively shape their own health and wellbeing. When people are supported with clear and relevant health information, meaningful behaviour change communication, opportunities to participate in **local decision-making**, and platforms for collective self-help, they are better prepared to recognize health risks, respond to challenges, and support one another. Such empowerment builds confidence, ownership, and long-term resilience at the community level.

This session will bring these ideas to life through **case presentations** and **panel discussions** among the experts who are working closely with communities across various settings and different thematic areas, with a common aim to build community resilience so that all the efforts funneled into health systems can be sustainable and can bring actual change at the local level. Each case will share real experiences of working with communities, highlighting what has worked, what has been difficult, and what has changed on the ground. The presentations will be followed by a panel discussion that will reflect on common lessons, practical challenges, and ways to strengthen and scale community-led efforts. Together, the session aims to create a shared learning space on how community empowerment can make health systems more responsive, inclusive, and sustainable.

The session aimed to:

- To understand how health literacy and community-wide action plans can empower people to take better care of their health
- To discuss how communities can be empowered to be more involved in decision-making and be more participative in local-level governance
- To share practical strategies that encourage healthy living and timely, appropriate health-seeking behaviour
- To reflect on the roles of various actors from governments and non-governmental organizations in supporting and sustaining community empowerment in health

Highlights from Individual Presentations/Talks

Spotlight Presentation on Health Literacy Intervention for NCDs in Chhattisgarh



Dr. Shweta Singh
ACCESS Health International

Dr. Shweta Singh presented insights from a health literacy intervention aimed at addressing non-communicable diseases in Chhattisgarh. She highlighted that despite the presence of national programs and screening initiatives, there remains a substantial gap between policy design and actual outcomes at the community level. This gap is particularly evident in low awareness, delayed health-seeking behaviour, and limited understanding of diseases beyond common conditions such as hypertension and diabetes.

She emphasized that patients with NCDs require continuous engagement beyond episodic interactions with the health systems, particularly for lifestyle modification, counselling, and long-term adherence to treatment. The baseline assessment conducted as part of the intervention revealed gaps not only in awareness but also in the ability of individuals to interpret and act on health information, especially in relation to cancers and other complex conditions.

The intervention adopted a participatory and community-centered approach, engaging community members, frontline workers, and local stakeholders

through structured sessions. These sessions utilized interactive tools such as social mapping, case-based discussions, and visual methods to improve understanding and foster dialogue. This approach helped address issues such as stigma, misinformation, and hesitation in seeking care. She concluded that participatory methods not only improved awareness but also strengthened community ownership, enabling communities to collectively identify challenges and solutions, thereby contributing to long-term resilience.



Health literacy is not just about awareness, but about enabling people to understand and act on information.

Dr. Shweta Singh



Highlights from Panel Discussion

Dr. Ramakrishna Prasad
CPHC Alliance



Community Resilience and Health Systems Linkages

Dr. Ramakrishna Prasad emphasized that community resilience is shaped through the interaction between communities and health systems, rather than being an independent attribute. He highlighted that weak linkages between primary healthcare services and communities often result in gaps in access, continuity of care, and trust.

He pointed out that primary healthcare systems face challenges such as limited accountability, lack of clearly defined population coverage, and difficulty in demonstrating outcomes despite high levels of activity. These systemic gaps directly affect the ability of communities to effectively engage with health services.

Barriers to Healthcare Access and Primary Care Challenges

Dr. Prasad further discussed key barriers affecting healthcare access, including fear, distance, migration, and socio-economic constraints. He emphasized that primary healthcare, though often considered basic, is in reality complex and foundational to building resilient communities.

He noted that addressing these barriers requires strengthening service delivery at the primary level while ensuring that systems are responsive to local needs and realities. "Primary healthcare is not simple—it is the most complex and critical part of the system," he added.



Community resilience is an inherent property of communities; it emerges and evolves through the dynamics between the health system and the community.

Dr. Ramakrishna Prasad





Mr. V.R. Raman

Public Health Resource Network

Governance, Participation, and Local Accountability

Mr. V.R. Raman highlighted the importance of local governance mechanisms such as panchayats in strengthening community resilience. He shared examples where communities actively participated in local health planning, including analyzing expenditures and prioritizing health issues such as non-communicable diseases.

He emphasized that meaningful participation requires enabling communities to influence decisions rather than merely being present in discussions. He also noted that governance models must be adapted to local contexts, as approaches that work in one region may not be directly replicable elsewhere.



Community participation becomes meaningful when communities influence decisions and not just attend meetings.

Mr. V.R. Raman





Dr. N. Krishna Reddy
ACCESS Health International

Role of Frontline Health Workers

Panelists emphasized the critical role of frontline health workers in bridging the gap between communities and health systems. It was noted that these workers often operate under challenging conditions but play a vital role in building trust, facilitating communication, and ensuring service delivery at the last mile.

Dr. N. Krishna Reddy highlighted the need to strengthen and support frontline workers as a key strategy for improving community engagement and system responsiveness.



If we take care of those who care for patients, the system becomes truly people-centered.

Dr. N. Krishna Reddy





Mr. Ashish Manwar
The Resilience Collaborative

Community-Led Innovation and Learning

Mr. Ashish Manwar highlighted that many effective solutions for building resilience originate from within communities, particularly from frontline workers and local leaders. He emphasized the importance of recognizing, documenting, and scaling such grassroots innovations.

He noted that resilience is built through continuous adaptation and learning, and that community-driven approaches are often more sustainable and contextually relevant.



Resilience is built through local innovation and leadership emerging from communities.

Mr. Ashish Manwar





Dr. Kapil Sharma
Indigenous Development Organisation

Context-Specific Approaches to Community Engagement

Dr. Kapil Sharma emphasized that community engagement strategies must be tailored to specific contexts, particularly when working with diverse populations such as tribal or urban communities. He noted that differences in social structures, cultural norms, and levels of awareness require customized approaches.

Panelists agreed that a one-size-fits-all model is ineffective and that interventions must be flexible and adaptive to local realities.



Community engagement must be adapted to context—one approach cannot work everywhere.

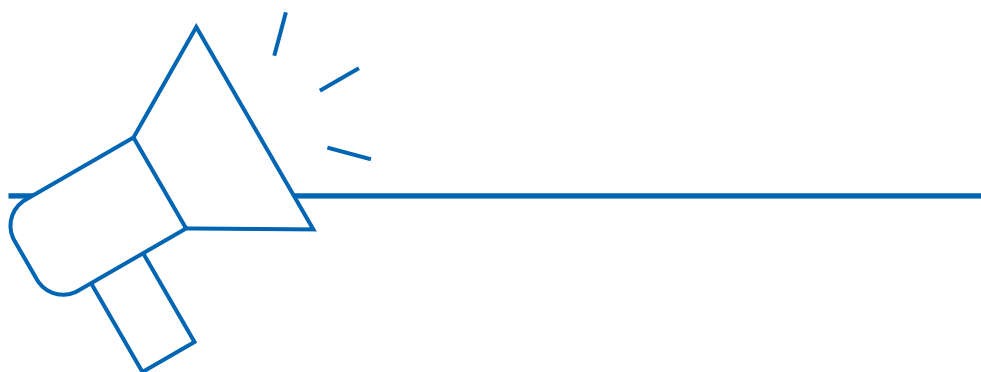
Dr. Kapil Sharma





Key Session Takeaways

1. *Community empowerment is essential for resilient and sustainable health systems.*
When communities are informed, organized, and involved in shaping health initiatives, they develop greater ownership and capacity to respond collectively to evolving health challenges.
2. *Health literacy must enable people to understand, evaluate, and act on health information.*
Awareness alone is insufficient; individuals need the confidence and practical ability to recognize risks, make informed decisions, and seek appropriate care in a timely manner.
3. *Participatory approaches strengthen ownership and improve intervention effectiveness.*
Interactive tools, community dialogue, and collective problem-solving help surface local concerns, address stigma and misinformation, and develop solutions that communities are more likely to sustain.
4. *Local governance structures can strengthen accountability and community participation.*
Platforms such as panchayats can enable communities to influence local health priorities, review expenditure, and participate meaningfully in planning and monitoring health services.
5. *Strong linkages between communities and primary healthcare systems are essential.*
Resilience emerges through the relationship between communities and health systems, requiring primary care services to remain responsive, adaptive, and accountable to clearly defined populations.
6. *Behaviour change requires trust, cultural relevance, and continuous engagement.*
Sustained changes in health-seeking behaviour and lifestyle practices cannot be achieved through one-time information campaigns and require ongoing counselling, empathy, and locally relevant communication.
7. *Multi-stakeholder collaboration is critical for sustaining community initiatives.*
Governments, health providers, civil society organizations, local institutions, and communities must work together to align resources, responsibilities, and actions around shared health priorities.
8. *Community-led innovation and adaptive learning contribute to long-term resilience.*
Solutions developed by frontline workers, local leaders, and community members are often grounded in lived realities and should be recognized, documented, tested, and adapted for wider use.
9. *Frontline health workers are central to last-mile delivery and trust-building.*
Their close relationships with communities place them at the centre of communication, care navigation, follow-up, and service delivery, making their wellbeing, capacity, and support essential to a people-centred system.
10. *Community engagement strategies must be adapted to local contexts.*
Social structures, cultural norms, geography, migration patterns, and levels of awareness vary significantly, requiring flexible approaches rather than uniform models of engagement.

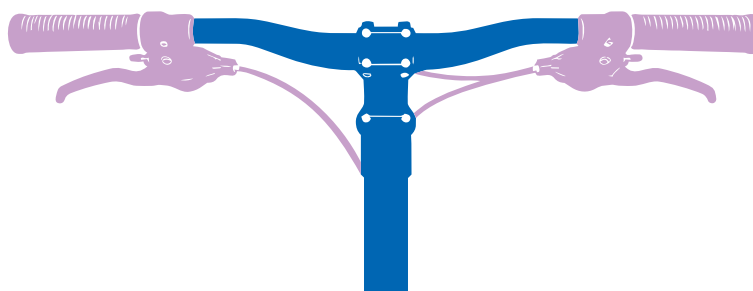


Call to Action

Dr. N. Krishna Reddy concluded the session by emphasizing that resilient health systems cannot be built without resilient communities. He highlighted the need to integrate community engagement into the core of health system design, rather than treating it as a supplementary component.

He called for sustained investments in health literacy, stronger support systems for frontline workers, and deeper collaboration between stakeholders to ensure that community-led approaches are effectively scaled and institutionalized. He reiterated that health systems will only be resilient when communities are empowered as equal partners.

He underscored the importance of translating insights from the session into actionable strategies that strengthen the connection between communities and health systems, ultimately leading to more inclusive, responsive, and sustainable healthcare delivery.



Gallery



Gallery



