



VACCINATION ACCEPTANCE  
RESEARCH NETWORK

S SABIN VACCINE INSTITUTE

# VARN2023:

When Communities Lead,  
Global Immunization Succeeds

Bangkok, Thailand | June 13 – 15, 2023



## CONFERENCE REPORT

VARN2023: When Communities Lead, Global Immunization Succeeds

The Sabin Vaccine Institute's Vaccination Acceptance Research Network (VARN) hosted its second annual conference co-convened with UNICEF and co-sponsored by Gavi, the Vaccine Alliance and in support of COVID-19 Vaccine Delivery Partnership priority countries. Conference sessions provided a space for exploration and facilitated the wide dissemination of a growing body of knowledge, practice, and evidence-informed strategies for driving action across the vaccination acceptance, demand, and delivery ecosystem.

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## ACRONYMS

<b>CGPP</b>	CORE Group Partners Project
<b>COPC</b>	Community-oriented primary care
<b>CoVDP</b>	COVID-19 Vaccine Delivery Partnership
<b>DTP</b>	Diphtheria, tetanus, and pertussis
<b>HCD</b>	Human-centered design
<b>HIV</b>	Human immunodeficiency virus
<b>HPV</b>	Human papillomavirus
<b>JSI</b>	John Snow, Inc.
<b>LGBTQ+</b>	Lesbian, gay, bisexual, trans, queer, questioning, intersex, asexual and more identities
<b>LMICs</b>	Low-and-middle income countries
<b>MI</b>	Motivational interviewing
<b>MMR</b>	Measles, mumps, and rubella
<b>PAHO</b>	Pan American Health Organization
<b>PCI</b>	Project Concern International
<b>PLHIV</b>	People living with HIV
<b>PLWD</b>	Persons living with disabilities
<b>Sabin</b>	Sabin Vaccine Institute
<b>SMS</b>	Short message service
<b>UNICEF</b>	United Nations Children’s Fund
<b>VARN</b>	Vaccination Acceptance Research Network
<b>WHO</b>	World Health Organization

## FOREWORD

We are privileged to share the report of the Vaccination Acceptance Research Network (VARN) 2023 Conference co-hosted by the Sabin Vaccine Institute and UNICEF in Bangkok in June, with support from Gavi, The Vaccine Alliance, and the COVID-19 Vaccine Delivery Partnership.

VARN2023 drew a high level of interest from country practitioners and implementers, researchers, and advocates. Over 150 presenters shared insights from relevant research and practice in the immunization field, and showcased solutions-focused evidence. Zero-dose children, equity, life-course immunization, social and behavioral drivers of vaccine acceptance and demand, and responsiveness of service delivery models were the main subjects of discussion.

VARN2023 provided an opportunity for presenters from low- and middle-income countries (LMICs), particularly women, to share their experiences with other participants. Gender was highlighted as a cross-cutting theme in the panel discussions and presentations.

The key recommendations from VARN2023 are amply supported by the recently released WHO/UNICEF Estimates of National Immunization Coverage (WUENIC) 2022. The participants strongly called for immunization programs to focus on equity and inclusion.

Though there has been progress in reducing the number of zero-dose children in some countries, many countries are yet to reach pre-pandemic levels of immunization coverage. The number of zero-dose and under-vaccinated children still remained high in 2022 compared to 2019, underscoring the importance of governments prioritizing immunization.

The conference also emphasized integration of services to reach zero-dose and under-vaccinated populations. There is no better time than now to co-deliver immunization with

other services deemed essential by communities.

Countries faced with dwindling fiscal space and a paucity of health work force must be supported in designing and implementing cost-effective and smart ways of delivering a basic package of essential services in a sustainable manner. This may require a re-design of effective strategies and a new compact among all key stakeholders.

The final recommendation coming out of VARN2023 was to change the narrative around immunization. The journey from vaccines to vaccination is becoming increasingly complex. Therefore, investing in understanding the social and behavioral drivers of community acceptance, including identification of trusted messengers, is becoming ever more important. Equipping these trusted messengers with timely and accurate information and other communication tools and skills will be critical to maintain public trust and confidence in vaccination.

We hope that the knowledge sharing, learning and exchange of experience shared during the conference will help foster peer learning and replicate some of the ideas to reach zero-dose and marginalized populations in countries.

We would like to sincerely thank our presenters, moderators, and conference attendees. We would like to extend a special note of appreciation to Sabin's Vaccine Acceptance & Demand Initiative team members; UNICEF's global Demand for Immunization Team; our VARN Advisory Committee; VARN2023 abstract external peer review committee members; CoVDP members; and Gavi, the Vaccine Alliance. With your support, we look forward to continuing to strengthen VARN and holding the third VARN Conference in 2025.



**Anuradha Gupta**  
President,  
Global Immunization  
Sabin Vaccine Institute



**Ephrem Lemango,**  
Associate Director – Health, Chief of  
Immunization  
UNICEF Headquarters



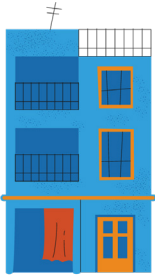
## KEY MESSAGES

## Key Findings from VARN2023: Equity and Inclusion

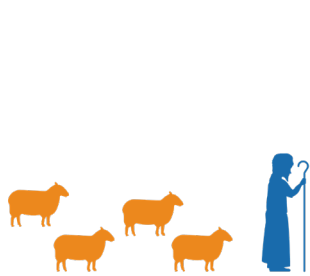
# Put vaccine equity and inclusion at the heart of programming to improve vaccine confidence, demand and delivery, and reach diverse and marginalized communities

Inequity remains a barrier to immunization, particularly for marginalized groups, and contributes to growing numbers of zero-dose children and gender gaps in immunization.

Inequities in vaccination typically leaves these three key groups behind, which is also where half of zero-dose children reside:



The Urban Poor



Remote Communities & Nomadic Populations



Displaced populations in conflict settings

Long-standing structural inequities have negatively shaped experiences of vaccination and reduced vaccination uptake, as a result of factors such as poverty, gender, ethnicity, displacement, and conflict.



Vaccine equity also cannot be achieved without work to hear and reach historically marginalized populations, including people living with disabilities, women and girls, the transgender community, and Indigenous communities.

Achieving vaccine equity is complex but is the pathway through which to build vaccine confidence, demand, and uptake for all.



Around one-in-seven of all children globally are zero-dose.



Women face difficulties in accessing vaccination, often as a result of having less decision-making power within families compared with men and less access to information and communication sources.



Increasing equity in immunization also requires a shift in the investment strategy to achieve it.



## Key Findings from VARN2023: People-Centered Communication and Tools

### Prioritize communities in immunization service delivery through people-centered approaches and tools

Narratives around immunization are historically top-down communication, affecting how people perceive vaccines and immunization services. Meaningful change requires listening to community concerns, elevating their needs to those with the power to make decisions, and co-creating local, people-centered solutions.

Behavioral science and design approaches – such as human-centered design and motivational interviewing – can help us elicit and understand community needs to improve vaccine equity and immunization service experiences.

Community perceptions and lived experiences of immunization need to be heard by the health sector and policymakers to build trust and combat misinformation.

Communities have diverse, specific, and context-dependent needs.



Misinformation circulating online and offline contributes to low vaccine acceptance, demand, and uptake.

Social listening is a powerful tool to hear community concerns and experiences.



Journalists and media play a powerful role in amplifying community voices.

Improving the immunization service experience is critical to strengthening trust in health systems and increasing vaccine demand and uptake.

The immunization service experience includes factors within and beyond the interactions between a health worker and an immunization client.

Behavioral science plays an important role in optimizing the immunization service experience, ensuring it is people-centered and designed with the community in mind.



There are a diverse range of approaches which can be used to empower communities and health workers to co-develop strategies to improve vaccination confidence and demand, such as:

Leveraging vaccine champions – including community youth change-makers – improves vaccine confidence and demand;



Empowering communities and health workers through educational outreach to address misinformation and build vaccine confidence; and



Using innovative strategies at the intersection of the arts and science to communicate the value of vaccination for communities and other stakeholders.



## Key Findings from VARN2023: Community-Centric Solutions

### Encourage innovative, community-centric solutions and programs for improved routine immunization coverage and to reduce the number of zero-dose children

Social influencers, community mobilizers, and community action groups are effective at increasing community-level vaccine demand through their influence over a key audience, which may be related to gender, age group, peer group, work, or skills.

Discussing with parents and child caregivers their personal experience in obtaining vaccination for their children and immunization journey mapping of parents and child caregivers can identify challenges and opportunities for vaccination access, which can be addressed by both the public and private sectors (for example, by offering immunization at the workplace or providing leave for mothers to facilitate child vaccination).

Given competing health-related priorities at the community level, a community-oriented primary care model can generate vaccine demand through identification of an integrated package of health services that includes vaccination.



Children without or with incomplete immunizations are vulnerable to vaccine-preventable deaths and are often already subject to deprivation and disadvantages due to poverty, lack of health service access, or living in fragile and/or conflict settings.

Routine immunizations prevent 2.5+ million deaths annually in children under 5 years.

# 2.5+ million

In 2021, 25 million children missed routine childhood immunizations against critical diseases, including 18 million zero-dose children.



The COVID-19 pandemic drove a concerning 37% increase of zero-dose children, setting back years of progress.



## Key Findings from VARN2023: Building Vaccine Demand and Service Integration

**Strengthen vaccination across the life course through building vaccine demand and service integration to contribute to pandemic preparedness and maximize the benefits of future vaccines for all**



The life-course approach to immunization addresses an individual's needs for different vaccines at different stages of life, depending on their specific vulnerabilities to infectious diseases.



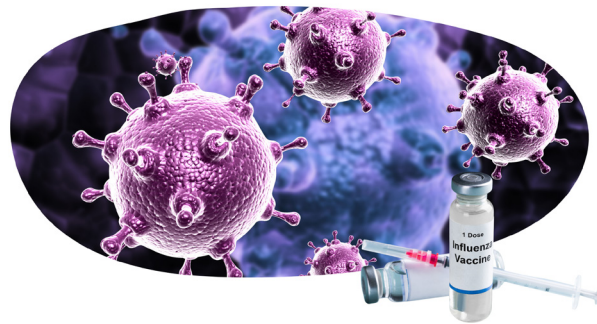
### Examples of immunization over the life course

90% of deaths from cervical cancer occur in low- and middle-income countries, and confidence in HPV vaccination has been decreasing due to public concerns.



However, evidence shows that vaccines can prevent almost all cervical cancer deaths if given early enough.

Influenza poses both a seasonal burden – with up to 650,000 people dying from seasonal influenza each year – and a severe pandemic threat.



However, access to influenza vaccination is inequitable, as 50% of the global population only receives 5% of influenza vaccine doses.

For sustainable vaccination success, life-course vaccination (including COVID-19) needs to be integrated with primary healthcare and other elements of service delivery, especially given the conflicting priorities that exist in many settings.

Investment in life-course immunization and influenza vaccine infrastructure is vital for pandemic preparedness.

# **VARN2023 REPORT**

## INTRODUCTION

The second annual Vaccination Acceptance Research Network (VARN) conference, *When Communities Lead, Global Immunization Succeeds*, was held June 13–15, 2023, in-person, in Bangkok, Thailand.

VARN2023 provided a space for the exploration and dissemination of a growing body of evidence, knowledge, and practice for driving action across the vaccination acceptance, demand, and delivery ecosystem.

VARN2023 was co-convened by the Sabin Vaccine Institute (Sabin) and UNICEF with support from the Gavi secretariat and the COVID-19 Vaccine Delivery Partnership (CoVDP). Co-led by Sabin and UNICEF, the conference leveraged the diverse experience and perspectives of both organizations and their collaborative initiatives.

VARN2023 brought together 231 global, regional, national, sub-national, and community-level representatives from 47 countries. The conference provided a forum to share learnings and solutions from work conducted across more than 40 countries – over half of which were countries where COVID-19 vaccine uptake

was less than 40% at the beginning of 2022 (previously CoVDP priority countries). VARN2023 fostered multisectoral engagement, including across global health and policy, research and academia, and healthcare and health communications; and provided a platform for voices from low- and middle-income countries (LMICs) to be heard (see Figure 1).



Photo depicts some of the Keynote Dialogue participants: Sangwe Clovis Nchinjoh, Deepa Risal Pokharel, Anuradha Gupta, Mutua L. Mutinda, Glenda Gray

Figure 1.1 VARN2023 Delegates by Region

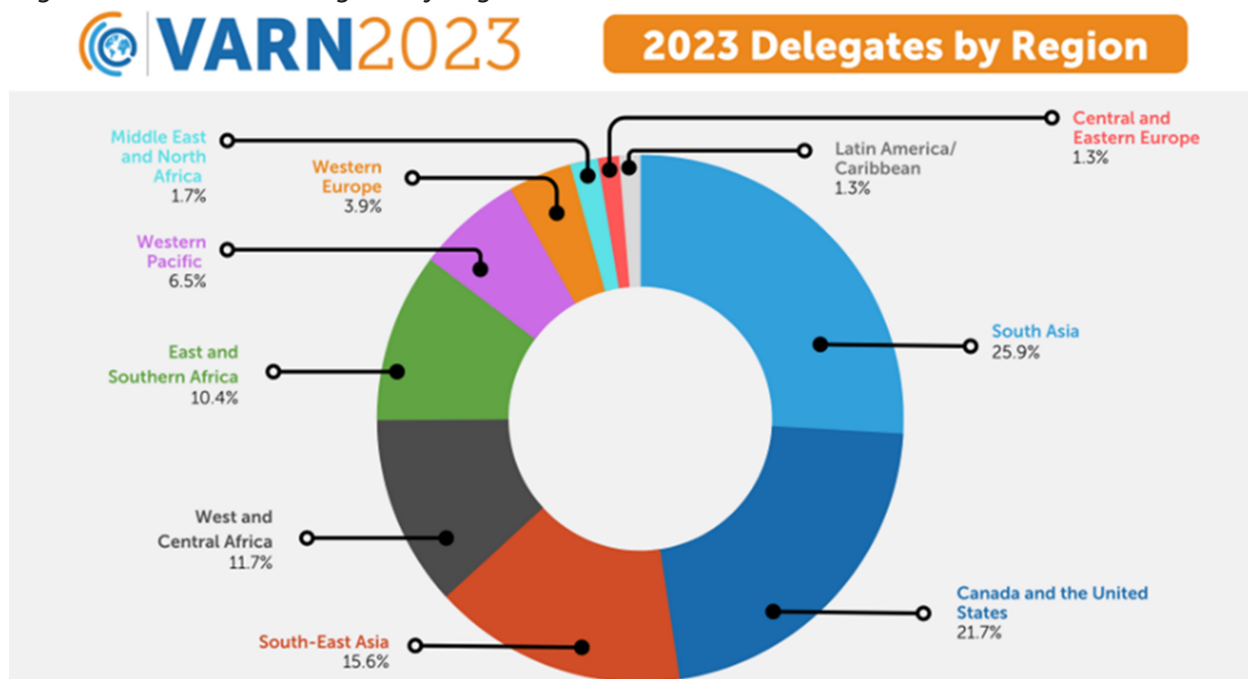
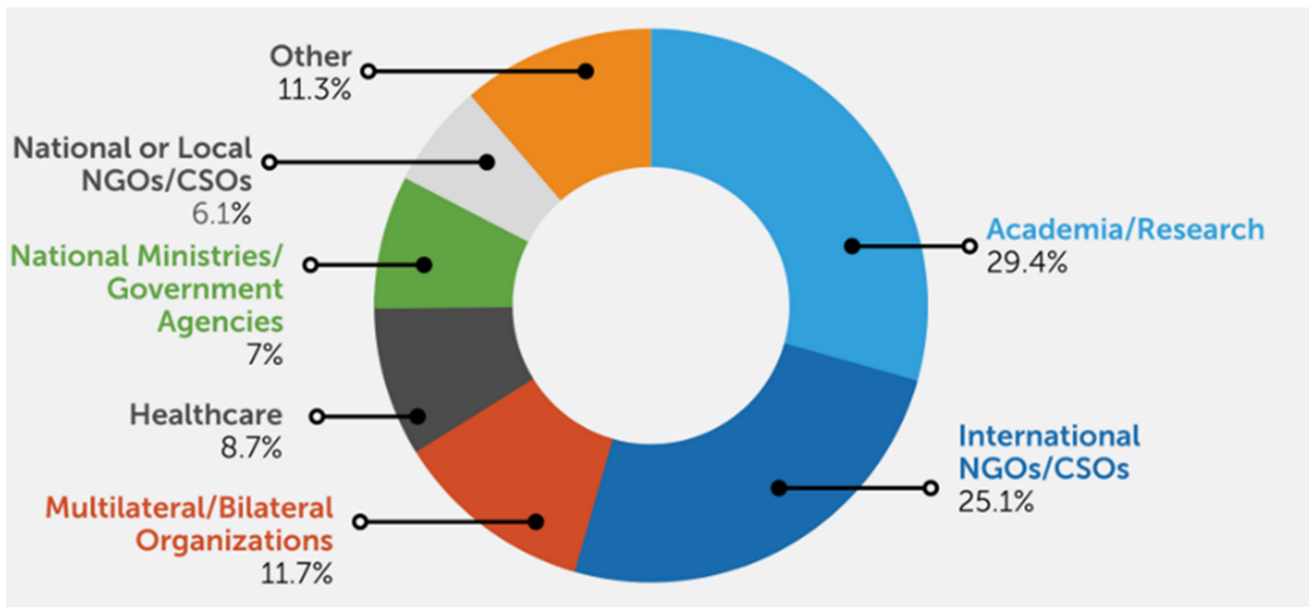


Figure 1.2. VARN2023 Delegates by Sector



### 2023 Delegates by Sector



Of all speaking roles on the agenda—including session moderators, oral presenters, and fireside chat participants—the majority of speakers were from LMICs at the sub-national and community-level (66.4%, n= 85/128). The majority of speakers were also women (68.8%, n= 88/128). This promoted women leadership in public health at all levels. Additionally, there were 52 in-person poster presenters across two poster sessions following similar trends, with 78.9% of presenters from LMICs and 53.9% being women. With this, VARN2023 explicitly and implicitly recognized, valued, and elevated LMICs and women leadership across all levels of global health around the issues that most impact their communities. Their priorities were spotlighted, both while setting the agenda and during conversations.

VARN2023 provided an opportunity for the sharing of knowledge from research and practice, as well as agenda setting around three core themes:

- Vaccine equity: setting a new course for reaching marginalized and zero-dose communities, conflict-settings, and reducing gender barriers;
- Reimagining essential childhood immunization: a reversal of current trends and improved integration into comprehensive health service delivery programs (from policy to community-level responses);
- Life-course immunization: extending the opportunities of COVID-19 vaccination investments to integrate, expand, and strengthen vaccination across the life course (HPV vaccination, future pandemic preparedness, and healthy aging).

VARN2023 offered specific conference sessions focused on both vaccine demand generation and social listening to mitigate rumors and misinformation about vaccines and vaccination, as these critical components cut across all core themes.

Welcoming remarks were delivered in-person from Ève Dubé, PhD, VARN Chair, Quebec National Institute of Public Health, Canada; and virtually by Myo-Zin Nyunt, MPH, Deputy Regional Director, UNICEF East Asia and Pacific; and Alex de Jonquieres, MSc, Director of Health Systems Strengthening, Gavi, the Vaccine Alliance.

The presenters highlighted the still-prevalent inequities around vaccination, most acutely present in the many millions of children who are zero-dose and yet to receive any vaccinations. This means that equity must be a focus of immunization efforts moving forward, requiring a different way of thinking and tailored strategies to understand and fix the underlying causes of inequities in vaccination coverage. Central to this will be working alongside communities to understand their needs and use those insights to co-develop solutions to reach the most marginalized and systematically missed by programs. VARN2023 also provided a space to share lessons from the COVID-19 pandemic about how to strengthen COVID-19 vaccination and routine immunizations.

The keynote address, “Immunization: The Equity Imperative,” from Anuradha Gupta, MBA, President of Global Immunization, Sabin Vaccine Institute, also focused on the moral imperative and evidence for making equity a focus of immunization efforts. As noted by Anuradha Gupta, VARN community members, with their passion and commitment, can ensure that every child, everywhere, can benefit from the full power of vaccines.

The subsequent keynote dialogue, moderated by Anuradha Gupta, included five experts from global to local levels, who shared their diverse, work-related and lived experiences pertaining to VARN2023 core themes around immunization and community engagement.

Keynote dialogue panelists included:

- Deepa Risal Pokharel, MA, Senior Adviser, Social and Behavior Change/Team Lead Immunization Demand, UNICEF HQ
- Dr. Sangwe Clovis Nchinjoh, MD, MPH, MSc, Founder and Board President, Rural Doctors & Associate at Clinton Health Access Initiative, Cameroon
- Saad Omer, MBBS, PhD, Director, University of Texas Southwestern Medical Center, USA
- Mutua L. Mutinda, KECN, KRCHN, Head of Health Promotion in Nairobi City County, Kenya
- Glenda Gray, MBBCh, FC Paeds, DSc, President, South African Medical Research Council



Anuradha Gupta, MBA, President of Global Immunization, Sabin Vaccine Institute

Initiating the dialogue, UNICEF’s Deepa Risal Pokharel noted that restoring routine immunization rates should be a priority, alongside strengthening of primary healthcare, which is essential for delivering routine immunization services. She also emphasized a need for greater consideration of gender in immunization efforts to address long-standing gender inequities. Sangwe Clovis Nchinjoh called attention to a need to rethink recovery strategies to ensure they are sustainable, integrated, and human-centered. Mutua L. Mutinda highlighted the value of social listening and the need to focus more on the local rather than global level. In her comments, Dr. Glenda Gray noted the importance of building trust, particularly in research, as people need to trust the research to ultimately trust the vaccines. This needs to include transparency and honesty about side effects, as silence or dismissal of concerns can lead to hesitancy. Dr. Saad Omer pointed out that healthcare workers remain the most trusted source of vaccine information, but that resources, training, and tools are needed to support healthcare workers in communicating with patients.

Across three days, the agenda incorporated the following:

- Five plenary sessions (keynote dialogue, two fireside chats with subsequent presentation panels, one open forum discussion, and closing plenary);
- 13 concurrent panel presentation sessions;
- Five interactive skills-building sessions (whether concurrent sessions or side events) with speakers:
  1. Skills Building Session on Applied Behavioral Science for Health Equity, facilitated by UNICEF;
  2. How Understanding Behavior Can Help Us Improve Immunization Services Experiences, facilitation/moderation by The Vaccination Demand Hub and JSI Research & Training Institute, Inc.;
  3. Using Motivational Interviewing to Increase Pandemic Vaccine and Routine Immunization Uptake, facilitated by the Global Immunization Division, US Centers for Disease Control and Prevention;
  4. Skills Building Workshop on Human-Centered Design Approach to Increase Vaccine Demand, by UNICEF and Nucleus; and
  5. How to Tell Your Immunization Story to a Journalist and Why? by Sabin and Internews;
- One evening side event with two panel discussions: Sabin's Social and Behavioral Research Grants Program, Video Narrative Project Screening;
- Two networking events: Vaccination Demand Hub Global Partners Session and an evening reception; and
- Two poster sessions, focusing on life-course immunization, routine immunization, social listening and combatting misinformation, and vaccine demand generation.

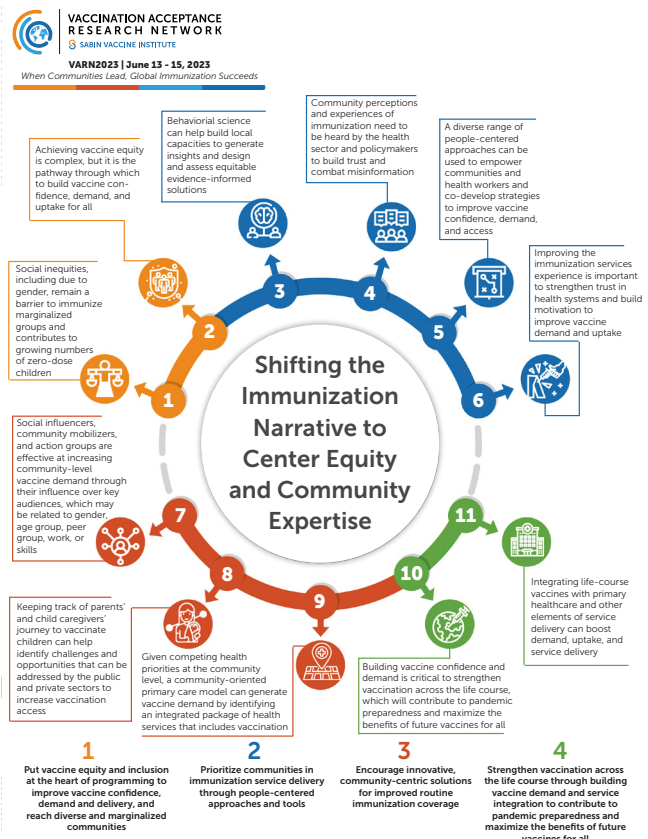
The full VARN2023 agenda can be found in [Annex 1](#).

The conference generated a number of insights, around four thematic areas, highlighting the need to:

1. **Put vaccine equity and inclusion at the heart of programming to improve vaccine confidence, demand and delivery, and reach diverse and marginalized communities;**
2. **Prioritize communities in immunization service delivery through people-centered approaches and tools;**
3. **Encourage innovative, community-centric solutions for improved routine immunization coverage; and**
4. **Strengthen vaccination across the life course through building vaccine demand and service integration to contribute to pandemic preparedness and maximize the benefits of future vaccines for all.**

Figure 2, featured in full-size on the following page, depicts high-level insights stemming from VARN2023.

Figure 2. Themes and sub-themes of VARN2023



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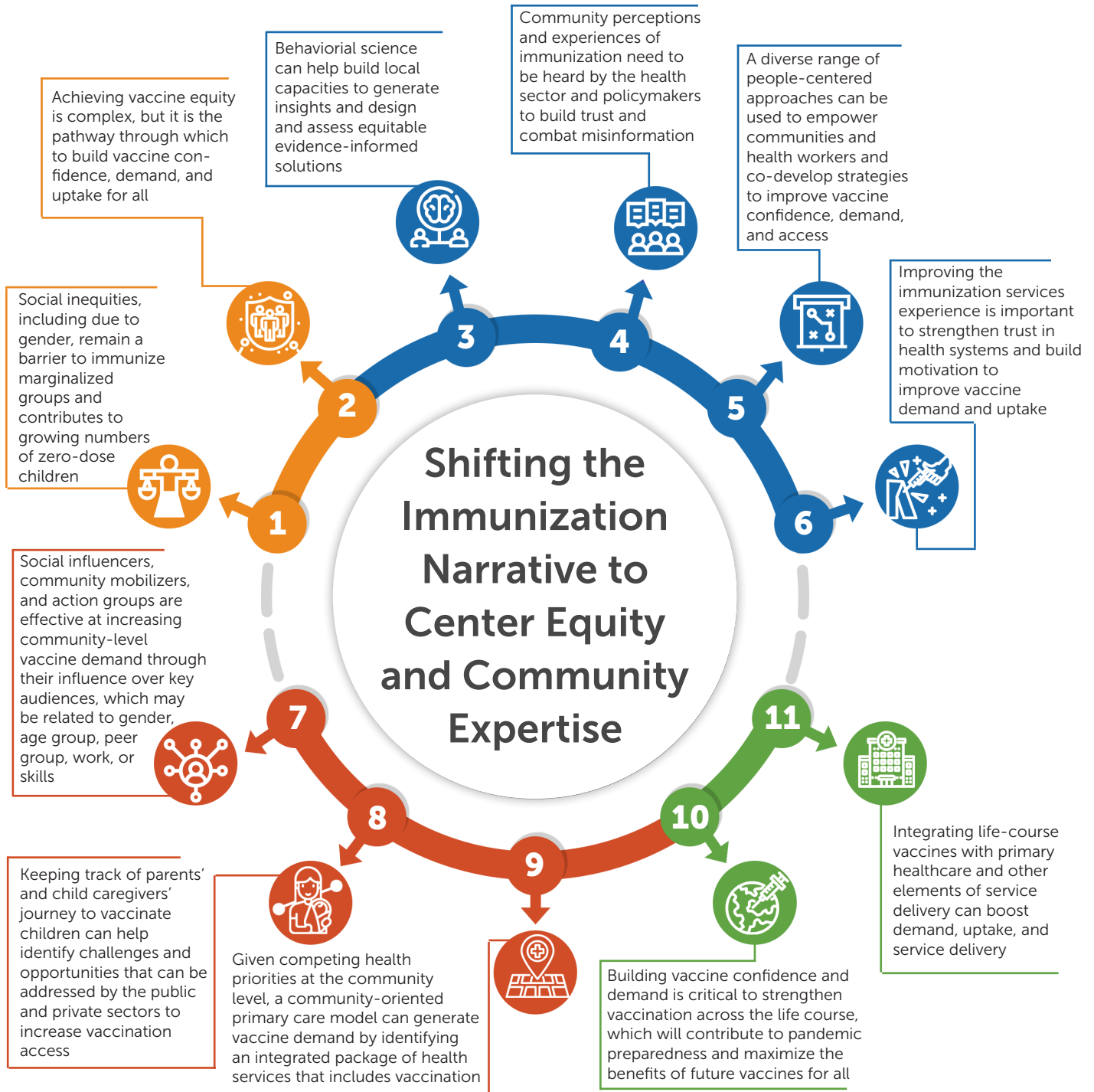
# VACCINATION ACCEPTANCE RESEARCH NETWORK

SABIN VACCINE INSTITUTE

VARN2023 | June 13 - 15, 2023

When Communities Lead, Global Immunization Succeeds

## Shifting the Immunization Narrative to Center Equity and Community Expertise



**1**  
Put vaccine equity and inclusion at the heart of programming to improve vaccine confidence, demand and delivery, and reach diverse and marginalized communities

**2**  
Prioritize communities in immunization service delivery through people-centered approaches and tools

**3**  
Encourage innovative, community-centric solutions for improved routine immunization coverage

**4**  
Strengthen vaccination across the life course through building vaccine demand and service integration to contribute to pandemic preparedness and maximize the benefits of future vaccines for all

Co-hosted by: Co-sponsored by: The Vaccine Alliance



The insights shared throughout the three-day conference set the stage for a global learning agenda around vaccine acceptance, demand, delivery, and uptake and ongoing collaboration through VARN with multidisciplinary, multisectoral, and multilevel VARN members and stakeholders within the broader ecosystem. Together, we hope that VARN continues to provide a forum to stimulate discussions, drive collaboration, and highlight key priorities for either new or continued investment that can positively impact vaccination introduction, acceptance and demand, program delivery, and uptake around the world, leaving no one behind.

All VARN2023 conference presentation recordings, posters, and other materials can be found at [www.varnconference.org/en/2023-home/](http://www.varnconference.org/en/2023-home/).



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## Put vaccine equity and inclusion at the heart of programming to improve vaccine confidence, demand and delivery, and reach diverse and marginalized communities

### THEME 1

Equity should be at the center of everything we do in building vaccine confidence and demand, strengthening vaccination delivery, and increasing uptake at the global, regional, and local levels. Centering equity in immunization agendas, policy, research, and practice is key to continuing the recovery from recent backsliding in immunization rates, helping us reach children who are un- or undervaccinated, and increasing uptake of life-course immunizations. This theme explores how inequity remains a barrier to immunization, and how vaccine equity can be the pathway to building vaccine confidence, demand, and uptake moving forward.

#### **1. Inequity, including a lack of gender equity within societies, remains a barrier to immunization, particularly for marginalized groups, and contributes to growing numbers of zero-dose children**

Structural inequities are a major barrier to vaccination access and uptake. Marginalized communities are particularly likely to face multiple interconnected structural inequities that reduce vaccination uptake as a result of factors such as poverty, gender, minority status, and displacement and conflict. These inequities contribute to high numbers of zero-dose children who have not received a single dose of the diphtheria, tetanus, and pertussis (DTP) vaccine. Zero-dose children are concrete markers of multiple inequities and account for nearly 50% of all vaccine-preventable deaths. The COVID-19 pandemic led to an increase in the number of zero-dose children in 2021 (18.1 million), and 67 million children missed out on routine immunizations between 2019 and 2021.<sup>1,2</sup> Concerted global efforts have led to a notable recovery in vaccination coverage following pandemic disruptions, with the number of zero-dose children down to 14.3 million in 2022, however this is still greater than the 12.9 million zero-dose children

in 2019.<sup>2</sup> Global recovery has also been uneven, and slower in some regions and in low-income countries.<sup>2</sup> There is a high moral and public health imperative to intensify recovery efforts and ensure that zero-dose children are vaccinated to prevent avoidable illness and death.

Poverty, gender, and ethnicity are critical barriers to immunization. Around half of zero-dose children fall into three key groups: 1) the urban poor, 2) remote communities and nomadic populations, and 3) displaced populations in conflict settings. Poverty is a major contributing factor, and two out of three zero-dose children live in households below the poverty line. A further 97 million more people have been pushed into poverty due to COVID-19, worsening the situation. People living in conflict settings and those who are displaced are often missed by immunization programs, leaving them at the risk of vaccine-preventable diseases, as well as other vulnerabilities.

In addition, there are pervasive gender gaps in immunization. Across diverse settings, presenters at VARN2023 shared how women face difficulties in accessing vaccination, often as a result of having less decision-making power within families compared to men and less access to information and communication sources. Childhood immunization may be considered a “woman’s job,” but women are likely to have less knowledge of and access to vaccination. Women in employment also face difficulties around taking time off from work to take their children for routine immunizations.

More broadly, marginalized communities often have a history of negative experiences within the health system and face systemic inequities in healthcare that lead to gaps in immunization. Understanding these inequities is a critical first step to improving vaccine demand and access. VARN2023 provided a platform to share research around how structural inequities have affected uptake of COVID-19 and

routine immunizations, with a focus on marginalized communities in LMICs.

In India, the not-for-profit organization Sangath has been working with transgender people and persons living with disabilities (PLWD) to understand experiences of COVID-19 vaccination in these communities. Bhakti Ghatole, MA (Sangath), shared experiences of the organization's work in the presentation "[Structural Inequities in COVID-19 Vaccine Access and Uptake Among Transgender and Disability Communities.](#)" In this participatory research, members of these communities were invited to share their experiences through interviews and photovoice stories, where experiences were documented through photography. This process revealed long-standing inequities that have negatively impacted experiences of COVID-19 vaccination among these communities.



To begin with, there is a lack of information around vaccination to meet the specific health needs of these communities, such as how to get vaccinated while on hormone therapies. Communities also have differing levels of trust in the vaccine and health system, which can negatively impact vaccine demand. Importantly, participants reported numerous systemic barriers to vaccine uptake, including that transportation to the vaccination center could be a challenge for PLWD and that the CoWin application – the digital backbone for the vaccination drive in India – was not initially accessible for users with disabilities, particularly visual impairment, cerebral palsy, etc. Some transgender participants were also unable to access

vaccination services due to the lack of gender concordant identification cards. Furthermore, an environment of neglect, experienced as pervasive and ableist ways of conducting vaccination, presented barriers to the disability community.

A woman affected by limb loss in Maharashtra shared,

**"There was a long queue outside the vaccination center and the sunlight was very strong. Neither was there a separate queue for disabled persons nor any provision to sit or have drinking water."**

Further, transgender participants highlighted that they often face survival challenges that made vaccination a lower priority and had to delay vaccination as a result. This has often been interpreted as vaccine hesitancy in the literature, yet this research shows the real causes are more complex. Consequently, there is a need to design services that are inclusive, accessible, and sensitive to disabled and gender-diverse people, with continued partnership to establish health equity for all.

In the presentation "[Moort Vax Waangkiny: Understanding Barriers to Routine Vaccine Uptake Among Aboriginal Children Aged Under 5 Years in the Perth Metropolitan Region.](#)" Carla Puca, MPH, MIDI (Telethon Kids Institute) shared work to understand barriers to routine vaccine uptake among Aboriginal children who have the lowest vaccination rates in Australia. Through an established Aboriginal community reference group, interviews with parents and caregivers of Aboriginal children under five years of age identified several barriers to routine vaccination. These included not knowing when their child was due for vaccines, illness-preventing vaccination, and opportunity barriers limiting uptake. These opportunity barriers included parents only being notified when children were already overdue for vaccination, difficulty in accessing vaccine clinics using public transport, difficulty in booking appointments for multiple children, and difficulty in interpreting available information about vaccines. Participants also reported feeling uncertain about the effectiveness and benefits of routine childhood immunizations. Together, the findings point to

a need for culturally safe healthcare services for Aboriginal and Torres Strait Islander peoples.

Specific populations may also require tailored immunization services to meet their needs, as discussed in the presentation [“COVID-19 Vaccination and People Living with HIV in Thailand”](#) by Chattiya Nitpolprasert, MA (Adam’s Love Global Foundation for Men who have Sex with Men and Transgender Health). During the pandemic, people living with HIV (PLHIV) in Thailand, including most at-risk and stigmatized groups, were not prioritized for COVID-19 vaccination. Research conducted by the non-profit found that, among PLHIV in Thailand, COVID-19 vaccine hesitancy was driven by a fear of side effects, fear of death, and a limited choice of vaccine. Participants also reported wanting to wait for mRNA vaccines, which were perceived to be a better option than other vaccine types. Several factors were reported to affect participants’ decisions around COVID-19 vaccination, including their immunocompromised status, concerns about COVID-19, and concerns about interactions between the vaccine and antiretroviral therapy. Participants also feared HIV stigma and disclosure of their HIV status as such, it is recommended that people living with HIV and other vulnerable populations are prioritized for COVID-19 vaccine information and uptake moving forward. These groups should also be offered services at specific COVID-19 vaccination centers, including those that offer anonymous services, so people who may experience stigma in traditional healthcare settings can access vaccination confidentially.

Recognizing the inequities that still exist around immunization means that vaccine equity must be the cornerstone of efforts to build better vaccine confidence, demand, and uptake for all. The global community has established proven ways to reach the majority of children eligible for essential routine immunization, yet millions of children are being left behind and face an unacceptable level of death and disability from vaccine-preventable diseases. Many countries have also experienced plateauing uptake of COVID-19 vaccines and challenges around establishing demand for and uptake of life-course vaccinations.

## 2. Achieving vaccine equity is complex but is the pathway through which to build vaccine confidence, demand and uptake for all

Given the multifactorial, intersecting causes of inequities, achieving vaccine equity is complex and will require solutions that are tailored to the specific community and context. It is therefore key to make vaccine services human-centered, to ensure that community voices are heard and community members are involved in the design and implementation of solutions. Vaccine equity also cannot be achieved without work to hear and reach historically marginalized populations, including PLWD, women and girls, the transgender community, and Indigenous communities. By including the people affected by inequities in solutions, we can move toward a more equitable approach to vaccination, one that directly works to break down these systemic barriers and develop equitable and sustainable solutions.

However, increasing equity in immunization also requires a shift in the investment strategy to achieve it. Investments must clearly distinguish and recognize the diversity of needs (human, financial, and technical) in both systems and programs to reach all those expected to benefit from immunization.

At VARN2023, participants shared different frameworks, tools, and approaches to address equity challenges around immunization and make immunization more inclusive and accessible, particularly among marginalized groups. These include behavioral science approaches and diverse communication strategies that can be used to truly listen to community needs and co-design impactful interventions (discussed further in Theme 2). Approaches to address inequities in routine childhood immunizations and life-course immunizations are also discussed in Themes 3 and 4.

## Facilitating inclusive COVID-19 vaccination for persons living with disabilities in Indonesia

## CASE STUDY 1

In Indonesia, a project was undertaken by the Australia Indonesia Health Security Partnership to make COVID-19 vaccination more inclusive for PLWD through reducing the operational gaps in the immunization program. Yulianto Santoso Kurniawan, MD, of the Australia Indonesia Health Security Partnership shared the partnership's work in the presentation "[Inclusive Vaccination: Narrowing Operational Gaps COVID-19 Vaccinations for People with Disability.](#)"

Indonesia has experienced both demand and supply-side challenges with its COVID-19 immunization program, and PLWD have reported difficulties in accessing COVID-19 immunization. To address the gap, a "last-mile" strategy was developed to create a more inclusive approach to immunization for PLWD and overcome operational gaps that reduce access to immunization services. This included advocacy with the district governments around the need for special efforts to address the operational barriers faced by PLWD when accessing COVID-19 immunization services. A "penta-helix" network of district governments, media, private companies, and organizations of PLWD was also engaged in these efforts. Mass vaccination events with a more inclusive approach were subsequently conducted in collaboration with relevant stakeholders.

As part of these efforts, inclusive risk communication materials were developed to better meet the needs of PLWD, for example, using pictures in place of text for immunization screening questions. Based on inputs from PLWD, an adapted vaccination procedure and participant flow model was developed to make vaccination sites more accessible. Adaptations included special lines for PLWD, ramps for people using wheelchairs, and the inclusion of a sign-language interpreter at the site (provided by the organizations of PLWD). Healthcare workers were trained to provide information in simple language, supported by pictures and sign language interpreters. Information on possible side effects from vaccination was explained to attendees through easy-to-understand audio-visual materials. Participants

could also receive other public services at the site, including free blood-sugar level checks. Officers from the civil registration agency were present at the vaccination centers to allow people to register for identification cards if they did not have them, as these were required for immunization. It was noted that the set-up created can be used in a variety of settings, including in public spaces, private centers, and schools. Mobilization efforts meant that the events were supported by local leaders and local community groups who attended the vaccination sessions.

The inclusive mass vaccination events were successfully implemented. Across the five inclusive vaccination events that were held, 760 people were vaccinated against COVID-19, including 371 women, 186 PLWD, and 32 older people. The case study demonstrates how vaccination services can be made more inclusive, integrated with other health and public services, and help improve the immunization service experience for PLWD and the broader community.



## Understanding the role of traditional medicine in public health communications in Guatemala

## CASE STUDY 2

In Guatemala, a country where 46% of its residents identify as indigenous, the Ministry of Health, with the technical and financial support of the Pan American Health Organization (PAHO) / World Health Organization (WHO) and the Universidad del Valle de Guatemala, undertook a national ethnographic study to understand the role of traditional medicine in public health initiatives, including vaccination. Mónica Berger-González, PhD, MPH, of the Universidad del Valle de Guatemala presented key findings of this study in her presentation "[Vaccination Against COVID-19 in Plurimedical Settings: Understanding Traditional Medicine's Role in Effective Communication Efforts.](#)" In a country with 61% of the population living below the poverty line and up to two-thirds of indigenous communities relying on traditional medicine to meet their health care needs, this study sought to understand willingness and intention to get vaccinated against COVID-19 across multiple ethnic-linguistic areas across the country. This study was conducted in 27 of 29 Health Areas and in 110 Health Districts between August and November 2021 by a team of anthropologists, sociologists, and linguists. Data was collected through interviews with cultural liaisons, health personnel, community leaders, and traditional

healers; household surveys, and focus group discussions.

The study found that participants overall were more concerned with infecting loved ones over themselves contracting COVID-19 which, as Dr. Berger-González outlined, was a key finding used to revise national communications campaigns in support of COVID-19 vaccination. Fear of the vaccine's side effects was found to be one of the biggest modulators of reluctance to get vaccinated, with 45% of all households fearful of vaccine side effects. Furthermore, 30% of households and 49% of community leaders reported using traditional medicine at the time of interview, and 93% of community leaders reported that they used traditional medicine in their communities for preventing or treating COVID-19. Two-thirds of traditional healers also reported negative polarization of traditional medicine by public health staff in alienating users against vaccination. This study identified a significant need for public health staff to work in collaboration with traditional healers, which will help facilitate linguistic and cultural relevance of public health communications campaigns for vaccination and emergency response.



## Prioritize communities in immunization service delivery through people-centered approaches and tools

## THEME 2

Narratives around immunization fundamentally affect how people perceive vaccines and immunization services. Historically, the narrative around immunization has been top-down communication, followed by perpetuated communication citing vaccine hesitancy that places blame on communities for low uptake. To make progress, we need to shift focus away from such assumptions and provide a mechanism for communities to inform the narrative. Moving forward, the narrative of immunization must recognize that vaccine uptake is influenced by a variety of factors, including service-side barriers, that must be addressed. Meaningful change will require us to listen to community concerns, elevate their needs to those with the power to make decisions, and co-create local, people-centered solutions.

Moving forward, we need engagement strategies to reach marginalized communities and the hardest to reach, whose voices and experiences are often not heard. Communication and community engagement strategies also need to be responsive. Insights from social and behavioral science can help us understand community perceptions, fears, and needs, which can inform the development of tools and messages that are truly human-centered and responsive to people's needs. We must be much more intentional with our messaging and be certain that we are sharing knowledge with humility and transparency. The power of positive storytelling and quantifying and qualifying the value of vaccination is not optional — we must be explicit and ensure that it is connected to the priorities, challenges, barriers, and systems of the communities in which change is sought. This requires utilizing channels and mediums in a comprehensive way to get the message out and engaging actors across the board to amplify reach.

This theme looks first at how behavioral design approaches can illuminate community needs, and subsequently how this information can be shared with decision-makers and used to co-develop meaningful solutions to improve vaccination.

### 3. Behavioral design approaches can help us elicit and understand community needs to improve vaccine equity and immunization service experiences

Behavioral design approaches are particularly valuable in helping us understand community needs to improve vaccine equity and immunization service experiences. Applying a behavioral lens can help us to understand the factors affecting people's decisions around immunizations and help identify, design, and evaluate solutions to improve vaccine equity and immunization uptake. Applied behavioral science has been a key component of Sabin and UNICEF's work to improve vaccine equity. At VARN2023, presenters shared the different ways that behavioral design approaches can be used to robustly investigate the underlying psychological, sociological, and environmental barriers to vaccine uptake, learn from communities, and co-design intelligent solutions that meet their specific needs in a way that is culturally relevant, respectful, and impactful through strong evaluation and measurement.

#### Human-centered design

Human-centered design (HCD), a process and related "toolbox" of approaches and methods for designing with the user, is one key approach that helps to ensure community needs are met by immunization interventions. The "center" of HCD is allowing community voices to be heard and respected as part of any intervention, best captured by the saying "Nothing about us without us." HCD is therefore a key part of improving vaccine equity and ensuring that immunization experiences are tailored to changing community needs and contexts. At VARN2023, presenters shared how HCD has been used to improve equity and immunization services.

In the Philippines, HCD was applied to bolster vaccine confidence through Project “Salubong,” a Filipino term that means “to welcome someone into one’s home or life.” In recent years, confidence in vaccines has declined in the Philippines following a controversy in 2017 related to the Dengvaxia dengue vaccine which was found to carry an increased risk of severe disease among those who have not had previous dengue infection.<sup>3</sup> Mark Donald C. Reñosa, RN, MSCIH, DNS (Research Institute for Tropical Medicine – Department of Health, Philippines), shared the project’s approach and outcomes with the VARN community in the presentation “[Human-Centered Design Bolsters Vaccine Confidence in the Philippines – Results of a Randomized Controlled Trial](#).” The project aimed to understand local narratives around immunization, and design, refine, and test interventions with the community to build a meaningful campaign that revives faith in vaccines.<sup>4</sup> An overview of the process is shown in Figure 2.1.

The preparatory phase set out to understand challenges and ongoing public health efforts around

vaccination through interviewing policymakers.<sup>5</sup> The subsequent phase of the project worked to build empathetic narratives around childhood vaccination and health facility experiences through in-depth interviews with vaccine-hesitant and vaccine-compliant caregivers, healthcare workers, and community leaders<sup>6</sup>. In the design and ideate stage, user perspectives were sought on these narratives. Gendered authority emerged as a latent source of power, with mothers often having less authority than other family members in decision-making. Instead, fathers were almost universally the clear authority figure in the household.

These insights helped outline a social-cultural context of vaccine decision-making and real-life narratives that could be used to develop an intervention rooted in the local context. Findings were used to co-create a new model of vaccine communication delivery with participants. As participants were keen on a story-based approach that resonated with feelings, a video method was selected. A new value of vaccines was also co-created with participants to establish that vaccines are a means for parents to demonstrate love for their child. The new value was shared in the educational

Figure 2.1. Salubong project overview: application of human-centered design to improve vaccine confidence in the Philippines

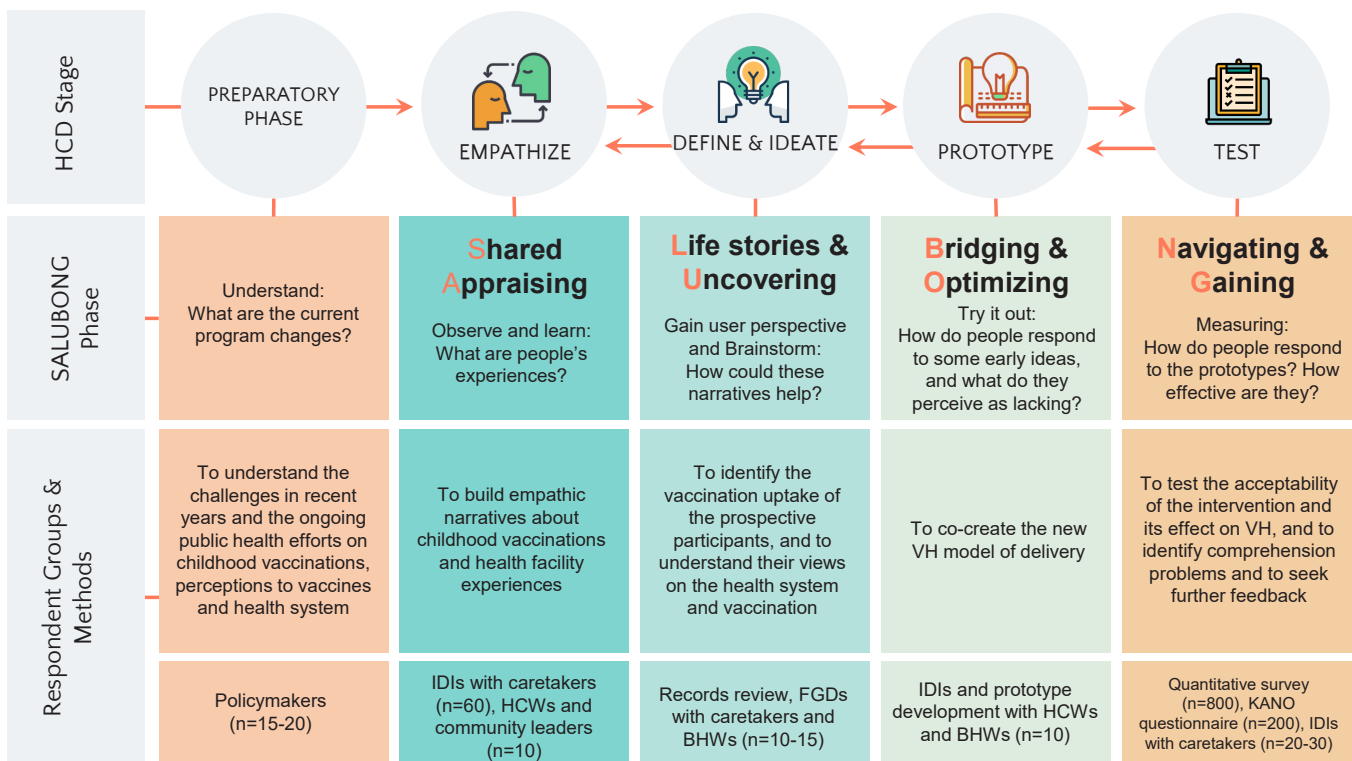


Image from Mark Donald C. Reñosa, *Human-Centered Design Bolsters Vaccine Confidence in the Philippines – Results of a Randomized Controlled Trial*



video, which was co-developed with local animators. When tested as part of a randomized controlled trial, the group who received the video intervention showed a notable increase in vaccine confidence, compared with the control group who received standard health education unrelated to vaccines.<sup>8</sup>

**The rapid community insights approach is an adaptation of the rapid community assessment approach, where the community is actively involved.**

An HCD and [rapid community insights approach](#) was also applied to increase COVID-19 vaccine confidence, demand, and uptake among displaced persons of the Karen community on the Thai-Myanmar border. Patrickka Chulamokha, MA, MPH (International Organization for Migration), provided insights into this work in the presentation [“Understanding and Addressing COVID-19 Vaccine Confidence and Demand in Displaced Person Shelters on the Thai Myanmar Border—A Human-Centered Design Project.”](#) The Thai-Myanmar border is a particularly remote area, with little access to healthcare. Three displaced persons camps were chosen for the project, that had particularly low uptake of COVID-19 vaccination, something previously blamed on the population and their religious beliefs. This project set out to comprehensively identify barriers of suboptimal vaccine uptake in these displaced communities, using an innovative rapid community insights approach.

Community members were trained as data collectors for the project and additional training was provided to enhance the capacity of the community within the displaced persons camps. The rapid community insights process revealed more nuanced reasons behind hesitancy than previously thought. These included the perception that COVID-19 is of low severity among the Karen ethnic groups (for example, as people in the community had survived malaria), fear of needles that prevented people from getting vaccinated, and concerns that the vaccine is not safe among people with chronic illness and the elderly. The community reported issues with accessibility, as the hospital is two hours away by foot and as the registration process was found to be challenging. In addition, the word used to mean “voluntary” (tathasu) in the COVID-19 vaccination campaign actually meant “if you dare to.” The word has negative connotations in the community as it was used in the voluntary repatriation campaign where the community was encouraged to return to Myanmar despite safety issues.

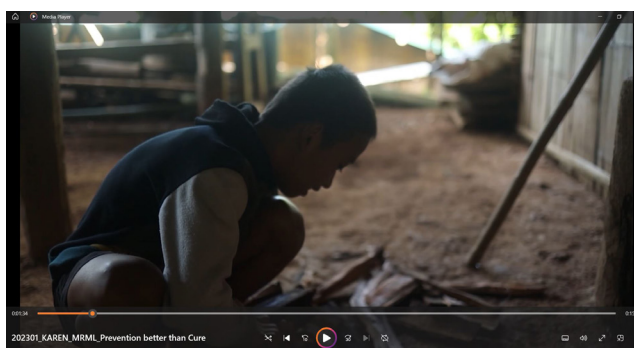
HCD was then used to develop creative, innovative, and community-informed, multi-layered interventions to strengthen vaccination demand. The community was invited to participate in an “ideation” process where they were presented with the findings from the rapid insights and invited to create ideas for solutions to improve vaccine demand and supply. The sessions also helped create a sense of belonging in the process, with the group developing a motto, which was also incorporated on clothing, to represent their goals (Figure 2.2).

A system was also established to address displaced person camp-level rumors and misinformation through “Right to Truth, Right to Health” group messengers. A comedy film festival was also held, with films scripted, acted, filmed, and edited by community members (Figure 2.3).

Figure 2.2. The community ideation process



Figure 2.3. The community ideation process



Images from Patrickka Chulamokha, *Understanding and Addressing COVID-19 Vaccine Confidence and Demand in Displaced Person Shelters on the Thai-Myanmar Border—A Human-Centered Design Project*

## Motivational interviewing

Motivational interviewing (MI) is another behavioral science-based approach to encourage participants to make positive behavioral changes, which is particularly useful to address vaccine hesitancy. Four case studies shared how MI had been used to increase vaccine and routine immunization coverage.

During MI, counselors act as “vaccine whisperers” to gently engage people expressing hesitancy, before their doubts develop into certainty. The approach has several key components, the first of which is establishing a non-judgmental relationship of trust with participants – recognizing that empathy is the most effective way to move toward change – and allowing participants to express fears and concerns without trying to convince or correct misinformation straight away. Also important is understanding the specific determinants of a person’s hesitation through asking open-ended questions and understanding what specific information will change the person’s perception of vaccination. Next, permission should be sought to provide information, so knowledge around vaccines is co-built between the participant and interviewer. Throughout, the autonomy of the person should be respected.

In Quebec, healthcare workers were trained in MI as part of an integrated evidence-based immunization promotion strategy, shared in the presentation,

[“Training Healthcare Workers in an Evidence-Based Immunization Promotion Strategy that Integrates MI in Quebec.”](#) by Arnaud Gagneur, MD, PhD (Université de Sherbrooke). In Quebec, a provincial program has been set up to provide each parent with a maternity education intervention by a healthcare

worker training in MI. This program has led to a 12% increase in parents’ intent to vaccinate their child, a 40% decrease in vaccine hesitancy, and a 10% improvement in vaccination coverage among 0–2-year-olds.

In Australia, a vaccine-communication framework was developed for immunization providers, incorporating MI and vaccination and communication science. In the presentation [“The Sharing Knowledge About Immunization \(SKAI\) Approach Integrating MI in Australia.”](#) Julie Leask, PhD, MPH (University of Sydney), described how the project has been providing community members and healthcare professionals with the information and tools they need to have helpful conversations about vaccination since 2019 (Figure 2.4).

Figure 2.4. Examples of the information and tools available for (a) parents of young children and (b) community health workers on the Sharing Knowledge About Immunization website

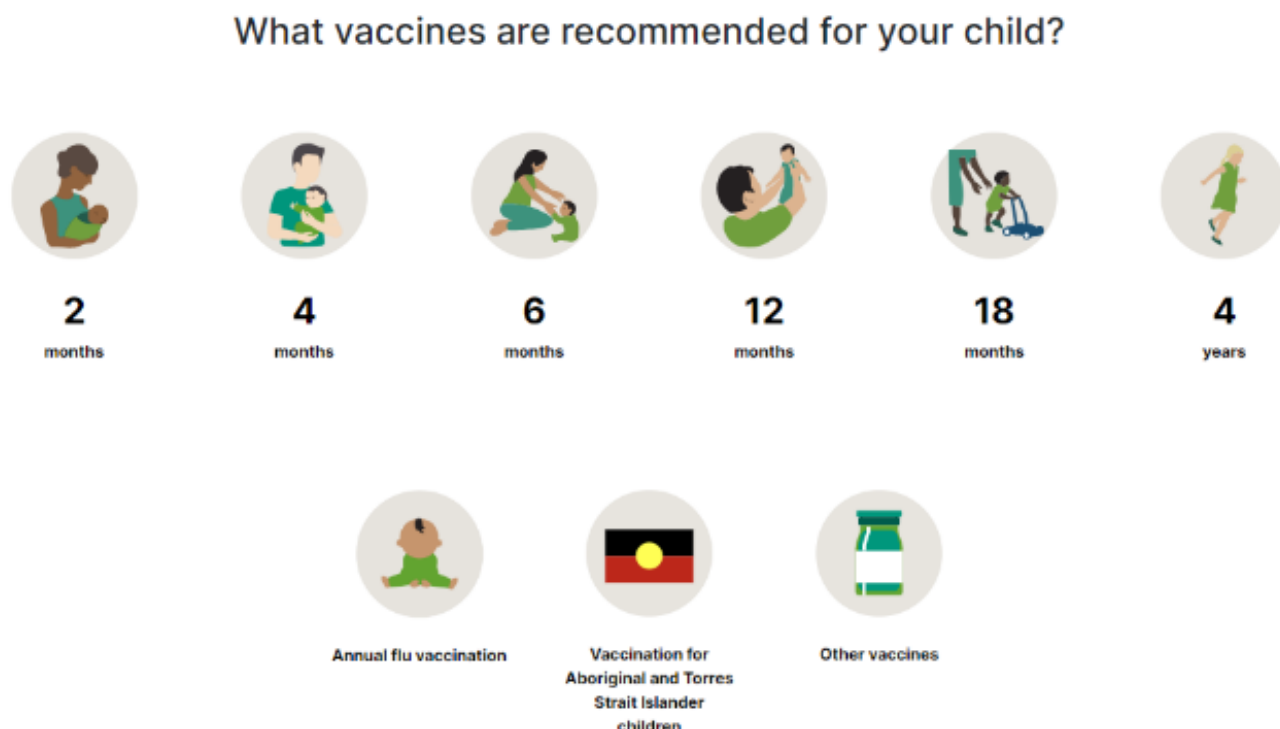


Image from *Sharing Knowledge about Immunisation*. Available from: <https://skai.org.au/>

## Consultation Guides



### Talking with parents who are declining

VACCINE READINESS: Declining

For productive conversations with parents who do not intend to vaccinate.

[Read more](#) →

### Talking with parents who have questions

VACCINE READINESS: Hesitant

For productive conversations with parents who are feeling hesitant about vaccinating their children.

[Read more](#) →

### Talking with parents who are ready to vaccinate

VACCINE READINESS: Ready

For productive conversations with parents who intend to vaccinate their children.

[Read more](#) →

Image from *Sharing Knowledge about Immunisation*. Available from: <https://skai.org.au/>

In Romania, MI was used to encourage timely completion of vaccinations and improve interpersonal communication between healthcare workers and caregivers. Details of the project were shared by Raluca Zaharia, UNICEF Romania, in the presentation "[Using Motivational Interviewing to Encourage Timely Completion of Vaccinations and Improved Interpersonal Communication Between Healthcare Workers and Caregivers in Romania.](#)" The project had two stages, the first of which was an assessment of communication needs among healthcare workers and caregivers. Healthcare workers reported some instances of vaccine hesitancy among their colleagues, while caregivers reported a perceived lack of need for vaccines and a need for more and better information. In the second part of the project, a training was developed and delivered to healthcare workers through a "train the trainers" approach. Pre- and post-intervention assessments showed an increase in knowledge and changes in healthcare worker attitudes. Enabling factors were the peer-to-peer training of trainers approach, more face-to-face sessions, and supportive supervision.

MI has also been used to build skills in effective peer-to-peer communication about vaccines in Somali diaspora communities. The project was shared in the presentation "[Modules to Build Skills in Effective Peer-to-Peer Communication About Vaccines in Somali Diaspora Communities](#)" by Hinda Omar, BSc, (Minnesota Department of Health), and Nessa Ryan, PhD, MPH (US Centers for Disease Control and Prevention). The Somali diaspora community in Minneapolis, Minnesota, USA has been a target for misinformation concerning the MMR (measles, mumps, rubella) vaccine and false ties to autism. To address the decline in vaccination in the community, work was undertaken with the community to understand their concerns, with MI used in a peer-to-peer format to enable transfer of knowledge among community members. A short course was used to train peers, utilizing video-novella learning and training on enhanced communication skills. A Zoom version of the training was piloted in 2021 among 33 healthcare workers. This short course was introduced among a Somali population in Kenya in 2022, where an evaluation suggested that the tool was feasible and acceptable. There was a significant improvement in relevant knowledge, perceptions, and intention to vaccinate among the learners.

## Developing a common framework to build vaccination demand using cost-effective and scalable methods

An innovative consortium is also helping to establish a common research framework for social and behavioral science. In the presentation "[The Mercury Project: Cost-Effective, Scalable Solutions to Insufficient Demand for Vaccinations Over the Life Course.](#)" Heather Lanthorn, ScD, MPH (Social Science

Research Council), provided an overview of the consortium's aims and ongoing work. [The Mercury Project](#) is a consortium of social and behavioral scientists and practitioners committed to identifying cost-effective and scalable interventions to build vaccination demand and science-based decision-

making. At the time of VARN2023, the consortium comprised 18 teams across 18 countries working on projects that have behavioral outcomes, as outlined in the research framework.

The initiative supports projects that leverage four key interventions designed to move people towards getting a vaccine. The first of these is lowering the search costs of finding accurate information about vaccination and vaccine-preventable diseases. This can be done through directly intervening to provide information through working on the information environment to increase the availability of accurate information and move people away from inaccurate information. The second of these is decreasing the decision costs of assessing the accuracy of vaccine information from competing sources (e.g., from family members versus a doctor). Part of this involves leveraging the use of trusted messengers and providing people with media literacy skills to distinguish between accurate and inaccurate information. The third is decreasing the logistical and practical costs of securing a vaccination. This could include helping people identify vaccine sites, helping people make and remember appointments, and providing support for childcare. The fourth of these is increasing the social and other non-health benefits of being vaccinated, which may include increasing knowledge of the vaccination status of others, reminding family and community members of the impacts around their vaccination choices, and ensuring accurate information around vaccines within their social network.

Early findings were shared from two of these studies. The boosting boosters at scale mega-study investigated different tactics to increase COVID-19 booster uptake in the USA. The study was conducted across 3.5 million patients in collaboration with a retail pharmacy. Participants who had received their initial doses of the COVID-19 vaccine were randomly assigned to eight different behaviorally-informed SMSs, each making use of the intervention designs outlined above to encourage booster doses. Within 30 days, those who received messages were 20% more likely to get their booster than those who did not receive the messages.

The second study, community-crafted messages, worked with specific communities in Mexico and Brazil to tailor standard public health guidance. Early results suggest that the community-crafted messages are significantly better than standard messaging both in terms of vaccine intentions and of online health-sharing behavior.

#### 4. Community perceptions and lived experiences of immunization need to be heard by the health sector and policymakers to build trust and combat misinformation

Historical narratives around immunization have often been based on assumptions around the perceived value and drivers of successful immunization. However, communities have diverse, specific, and context-dependent needs. These perceptions and lived experiences are critical to understanding the root causes of barriers to vaccine demand and access, and for developing impactful solutions. It is therefore essential that community perspectives are respected, listened to and communicated to the health sector, policymakers, and broader stakeholders to build trust and combat misinformation. VARN2023 provided a platform to share diverse people-centered strategies and tools that can elevate community needs to decision-makers for change.

#### Social listening

Social listening is a powerful tool to hear community concerns and experiences. Several presentations shared how different social listening approaches have been used to glean insights into common concerns or barriers in real-time and used to share timely reports with the health system and policymakers for a response.

In the poster presentation "[Rumor has it... you can quickly leverage a national health hotline for social listening.](#)" the authors Lawrence et al. shared work conducted in Malawi by the not-for-profit organization VillageReach and the Ministry of Health to listen to citizens' concerns around the COVID-19 vaccine received through the toll-free national health hotline. Hotline operators were trained to label and catalogue incoming calls based on whether callers were asking about vaccine access, eligibility, effectiveness, misinformation, or safety concerns. Personally identifiable information was removed, and a sample of calls were reviewed by VillageReach every two weeks. Calls were tracked across topics and the frequency of concerns was monitored, with the potential impact of rumors labelled as either low, medium, or high. Biweekly reports were subsequently shared with the National Covid Task Force and Risk Communication and Community Engagement group. These findings helped inform the risk communication and community engagement

approaches around how to respond to emerging rumors and questions from the community. Insights from the reports have led to the tailoring of COVID-19 vaccine messaging featured on radio, flyers, posters, brochures, and through jingles.

In Pakistan, an analysis of provincial helpline data between 2019 and 2022 was used to shed light on caregivers' concerns and queries related to routine maternal and childhood immunizations, with findings shared in the presentation "[Exploring Caregivers' Concerns and Queries Related to Routine Maternal and Childhood Immunizations in Pakistan: Analysis of Provincial Helpline Data from](#)

[2019 to 2022](#)." On average, three of every five calls received by the helpline were related to confirming vaccine due dates. However, several challenges related to demand were identified, including a lack of awareness and logistical challenges in accessing immunization, and misinformation around side effects. The presenter, Muhammad Zia Muneer, MPhil, of Interactive Research & Development (IRD) Pakistan, noted that over 90% of these queries were things that could be easily addressed as "low hanging fruit" to improve routine maternal and childhood immunizations.

## Developing cultural and linguistically tailored communication materials

The different communication needs of cultural and linguistically diverse populations must also be reflected in information, education, and communication materials if they are to be understood and resonate with the community.

In the presentation "["It's no use saying it in English": A Qualitative Study Exploring the Strategies to Enhance Immunization Uptake Amongst Ethnic Minority Communities in Australia](#)," Holly Seale, PhD, MPH, of the University of New South Wales, discussed how many existing systems are not set up for effective communication with linguistically diverse multicultural communities. First, people from these communities commonly experienced an overload of information from international settings as people frequently listened to messages originating from their countries of origin, which could conflict with local messaging in Australia. Additionally, although effort was put into translating immunization materials into different languages, there was a misunderstanding of what was needed in the community and a failure

to consult the communities themselves. As a result, the immunization materials did not resonate properly or use the correct terminology and language. There was also an insufficient effort to disseminate the materials to the communities in question. The findings highlight the importance of thinking about how we select language and working with language experts when developing immunization resources to build trust and counter misinformation.

In support of these efforts, Dr. Seale has developed a glossary of medical terminology for immunization and vaccine development to provide plain language meanings to key terms in the field. The glossary has been translated into 29 languages and is intended to help community organizations, translators and interpreters, and community leaders to better understand and communicate about vaccine development and implementation.<sup>9</sup>

## Amplifying community voices through journalism and the media

Journalists and the media can play a powerful role in amplifying community voices, if stories are heard and shared with respect and care. Sustained contact with journalists can help disseminate relevant information for policy and decision-makers, such as research and data, and stories from communities. Engaging with journalists effectively can lead to informing policies, changing the narrative on immunization, and engaging communities.

An [interactive session](#) was held at VARN2023 around how and why to share immunization stories with journalists. The session was facilitated by

experienced media trainers, and health and science journalists from Africa, Asia, and the Americas, who provided participants with practical guidance and approaches for engaging with the media on vaccination acceptance, demand, and delivery issues. Participants were also provided with guidance around how to develop compelling messages and effectively use storytelling and strategic communication tactics to build vaccine confidence. The session highlighted the vital role of the media as allies who can help researchers and communities share their stories, communicate health information, and tackle misinformation.

## 5. A diverse range of approaches can be used to empower communities and healthcare workers and co-develop strategies to improve vaccine confidence, demand, and access

Participants at VARN2023 shared different approaches that have been used to advocate for vaccination in the community, and provide community members and healthcare workers with the tools to combat misinformation and improve vaccine confidence and demand.



### Leveraging vaccine champions to improve vaccine demand and access

Several presentations at VARN2023 looked at the use of community advocacy and education to improve vaccine demand and access. One approach is through the use of “vaccine champions,” who are trusted community members who can advocate for vaccines in their community. In this context, vaccine champions can be powerful motivators around immunization, whether for new, routine, or COVID-19 vaccines. Vaccine champions do not require a health background, but need to be equipped with the knowledge and tools to facilitate change in the community.

Margie Danchin, MBBS, FRACP, PhD, from the Murdoch Children’s Research Institute, shared experience from a program to train community leaders to be vaccine champions in Fiji and Viet Nam, as part of the presentation [“Vaccine Champions Program in Viet Nam and Fiji.”](#) The program started by training participants on COVID-19 vaccines but has expanded to routine vaccines

utilized, where vaccine champions would go on to deliver training sessions in the community. The vaccine champions were healthcare workers and diverse community advocates, including community and faith leaders, teachers, and sporting leaders with a strong diversity, equity, and inclusion lens. The training builds on vaccine communication evidence and clinical experience, with a focus on education for priority populations (children living with disabilities, pregnant women, different cultural and indigenous groups, LGBTQ+ community). The training includes both vaccine education (e.g., on routine and COVID-19 vaccines, effectiveness and safety, addressing main rumors/misinformation) and vaccine communication training on how to approach an effective conversation, including through role plays.

Figure 2.5 outlines the process undertaken in Fiji in 2022 to train vaccine champions.

and new vaccine introductions (e.g., human papillomavirus [HPV] and rotavirus). As some countries are just starting to introduce such vaccines, healthcare workers are grappling with a substantial knowledge gap to answer questions from patients. The training comprised 1.5 to 2 days of face-to-face training, built around an extensive co-design process to adapt the content to the specific context. A “train the trainer” approach was

#### 2.5. Vaccine champion training process in Fiji

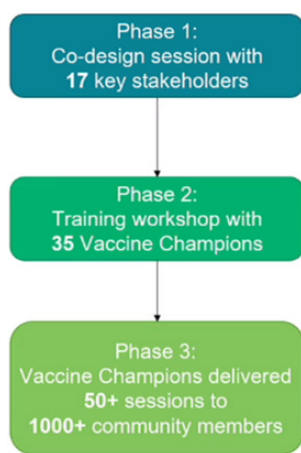


Image from Margie Danchin, *Vaccine Champions Program in Viet Nam and Fiji*

Overall, 35 champions were trained, of which 77% were women and 46% had a health background. The occupations of the village champions were diverse and included village head men, community health workers, doctors and nurses, faith leaders, and Fiji Red Cross staff. There was also valuable representation from Fiji rugby and cricket players who played an important role in becoming vaccine champions in their communities.

Training was found to increase champions' confidence to communicate about vaccines in general across a range of topics and for COVID-19 vaccines. Vaccine champions shared that,

**"I felt important because I acted in some places as a bridge between what the actual health officials want and the ground people," and "the message that I gave them that day changed their mindset and then they decided to receive the booster that same day."**

## Empowering communities and healthcare workers through education to improve vaccine confidence and address misinformation

Peer education is another powerful tool to increase confidence in and demand for vaccination. In the presentation "[Improving HPV Vaccine Acceptance through Peer-to-peer Education among Adolescent Girls in the Urban Poor Settings of Kisenyi, Kampala, Uganda.](#)" Doreen Tuhebwe, MPH (Makerere School of Public Health), shared how peer education was used to boost acceptance of the HPV vaccine in an urban poor setting in Uganda. The country has the seventh highest incidence of cervical cancer in the world, and rates of HIV and early sexual debut leave girls in the country particularly at risk from HPV. Although an HPV vaccination campaign was launched in 2015, uptake of the vaccine has been low, particularly among certain communities such as the urban poor.

In 2019-2020, a pilot project was implemented to develop a peer-to-peer education approach to increase HPV acceptance among adolescent girls aged 10–14 years in the Kisenyi slum. Focus group discussions were held with adolescent girls who had received HPV vaccination, with gleaned insights used to co-design peer education content. The peer educators were trained on how to engage with fellow girls aged 10–13 years in the community who had not received the HPV vaccine, to understand why and encourage uptake by sharing information about the risks of cervical cancer for reproductive health and protective benefits of the HPV vaccine. Weekly peer education mentorship meetings were also held over 12 weeks to support

Over 1000 community members were reached through community sessions run by the champions. These community sessions were found to substantially increase attendee intention to vaccinate, from 41% before the session to 83% after.

The African Union has also deployed an initiative to develop a network of young people who champion vaccination across Africa through the [COVID-19 Vaccination Bingwa Initiative](#). The Bingwas are volunteers who act as champions and advocates for COVID-19 vaccines to mobilize and facilitate vaccination uptake through vaccination drives and community-level initiatives. Experiences from the Bingwa Initiative were shared by Promesse Kaniki, MD, (Africa Centers for Disease Control and Prevention), in the presentation "[Mind the Gap: Bridging Disparities in Vaccine Acceptance Across Different Communities.](#)"

the peer educators. The peer educators had success in encouraging uptake, for example, through communicating vaccine benefits and engaging caretakers who ultimately made decisions around vaccination. One peer educator shared:

**"For me I got one girl, she was called Suzan. I asked her whether she was vaccinated against cervical cancer. She asked about the benefits she would get when she is vaccinated. I told her that in future you won't be able to suffer from cervical cancer, you can give birth and you won't get any problems when you are going to give birth. She asked me where they vaccinate from. I told her that we go to the city council hospital. She asked me whether the injection pains. I told her that it pains somehow but you will gain more." — Peer educator, 14 years old.**

Challenges in the approach were that, in some cases, girls might change their minds and refuse the vaccine at the last minute. In addition, the peer educators found it challenging to build relationships with girls who were not in school, as there were limited opportunities to socialize. Nevertheless, the pilot demonstrated that peer-to-peer education is feasible in an urban poor setting and that peer education can improve the attitudes of girls and their caretakers toward the HPV vaccine.

Healthcare workers also require tools and training to help them improve vaccine confidence among their patients and give them the skills to effectively

dispel misinformation. However, those working in healthcare often report that they do not have the necessary knowledge and tools to combat misinformation. Susanne Montgomery PhD, MPH, MS (Loma Linda University), shared findings from a pilot intervention for healthcare workers in Sierra Leone to help them be better prepared to engage with patients on COVID-19 vaccination in her presentation "[Understanding COVID-19 Vaccine Acceptance Among Healthcare Workers: Implications for Community.](#)"

In Sierra Leone, having a high level of trust in a healthcare worker has been found to be the strongest indicator of vaccine acceptance. Nearly 600 healthcare workers involved in COVID-19 care were interviewed on their knowledge, attitudes, perceptions, and training around COVID-19 vaccination. An intervention curriculum/strategy was subsequently developed to equip people with the education and shared decision-making skills to support their interactions with patients and community members around the COVID-19 vaccine. Anyone working at the healthcare facility who was interested in the training could participate, and 40 people were subsequently trained. Significant changes in knowledge and risk communication were found following the training. Although trainees still found general vaccine issues complicated to discuss with patients, they reported being motivated to talk and answer questions, despite not feeling completely comfortable. Overall, participants reported finding the intervention session very useful, and 93% felt they would be able to use the information presented with patients and family.

In the presentation "[Evaluation of a Training Resource to Strengthen Healthcare Worker Capacity in Combating Vaccine Misinformation.](#)" Emily Miller, MGH from the International Vaccine Access Center at Johns Hopkins Bloomberg School of Public Health, shared work done to develop and evaluate a training resource to strengthen healthcare worker capacity to combat vaccine misinformation. An interactive, asynchronous online training was developed for frontline workers by Johns Hopkins University and the International Vaccine Access Center. The training is grounded in behavioral theories, including inoculation and pre-bunking, and focuses on how to effectively communicate with vaccine-hesitant individuals and effectively respond to the misinformation people may encounter online or through social media. The training is designed to be completed in one hour and covers four modules: 1) misinformation basics, 2) debunking, 3) vaccine and immunology basics, and 4) communication about vaccines. The training is delivered via a responsive platform that is easily readable across different devices (e.g., desktop computer and mobile phone). The platform also highlights progress through the course and uses "lazy loading" to display information, which means that certain parts of the content are only loaded when the user is ready for the subsequent information (Figure 2.6). These features help prevent information overload and make the training more approachable for users (i.e., healthcare workers) who may not have much time to learn. The activities are practice-based rather than assessment oriented, to shift the focus towards "do and learn."

Figure 2.6. The training platform

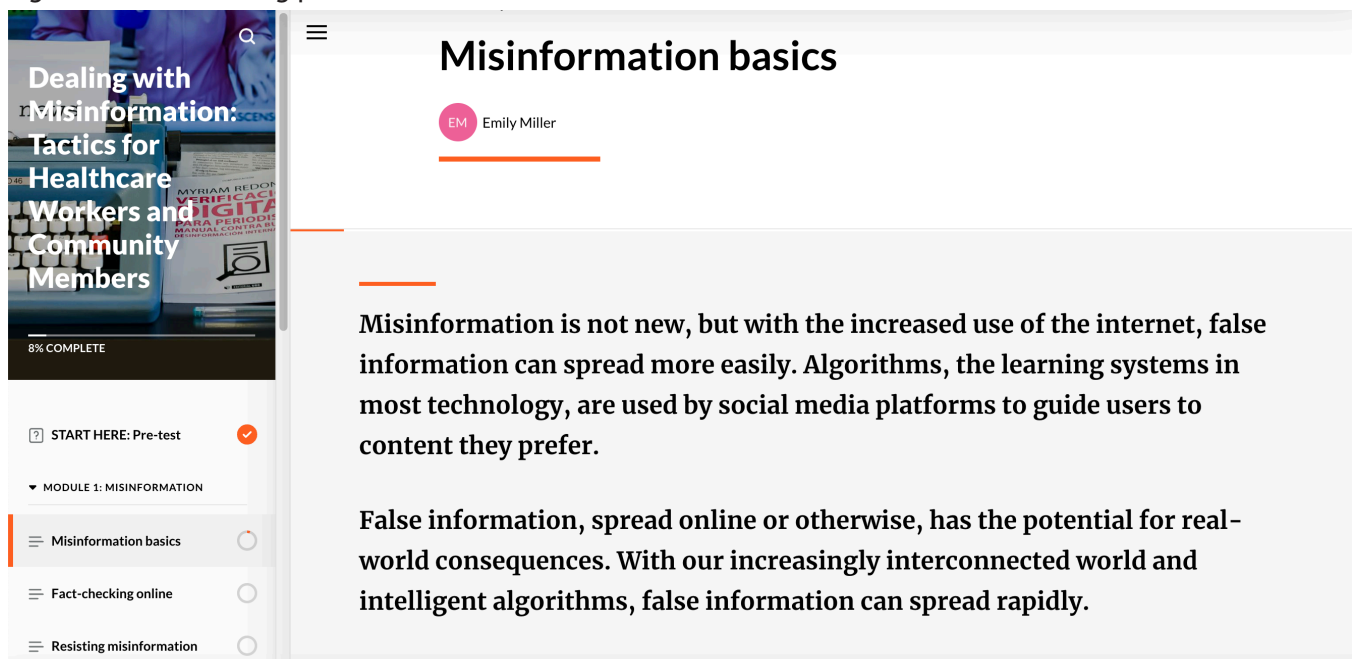


Image from Emily Miller, *Evaluation of a Training Resource to Strengthen Healthcare Worker Capacity in Combating Vaccine Misinformation*



The training provides both the basics of specific approaches to counter misinformation, (e.g., principles of debunking), but also allows users to practice these skills through role plays (Figure 2.7).

Figure 2.7. Introduction to debunking (A). Role playing exercise to practice debunking dialogue, with two possible responses to the comment from friend encountered at the market (B)

Let's imagine a scenario where a client tells you, "I think my body is better protected from future illness if I get sick and recover than if I get a vaccine." How would you debunk this idea in four steps?

STATE "THE FACT"	WARN	EXPLAIN	RESTATE "THE FACT"
<p>Begin by stating the true fact clearly, simply and concretely. <b>This is more than simply saying that the claim they are presenting is untrue.</b></p> <p>You could begin by telling your client that "Vaccination helps protect you from future illness more efficiently and with less harm than if you were to get sick with that disease."</p>			

CONTINUE



Image from Emily Miller, *Evaluation of a Training Resource to Strengthen Healthcare Worker Capacity in Combating Vaccine Misinformation*

The training has been translated into Spanish and French and has been piloted using nearly 400 individuals across seven countries (Bangladesh, Cameroon, Guyana, India, Liberia, the Philippines, and the USA). Around 70% of the trainees were women, and a diverse range of healthcare workers

have been trained to date. Preliminary results are promising, with trainees reporting an increased sense of confidence in responding to vaccine misinformation. Training sessions were scheduled for mid-2023 in Kenya, Mozambique, and Nigeria.

## At the intersection of 'the arts and science' are additional innovative strategies to efficiently communicate the value of vaccination for communities and to other stakeholders

Achieving vaccine demand and equity requires new ways of working with communities to truly understand their lived experiences and reach people with messages and interventions that resonate and feel people-focused. Innovative approaches that sit at the intersection of art and science have the power to inspire people, and allow them to share their realities in a human-centered way. Methods of storytelling and communication are evolving to incorporate different contemporary mediums like short-form videos, podcasts, and advertisements/commercials. Embracing these approaches can help us engage people around immunization in new and inspiring ways. The following case studies share three creative approaches to communicate around the value and importance of vaccination.



## Social and behavioral research video narrative project

## CASE STUDY 1

Sabin and its Vaccine Acceptance & Demand Initiative is committed to advancing vaccines and vaccination through understanding the social and behavioral drivers of vaccination success. In 2019, Sabin launched its Social and Behavioral Research Grants Program, which awards grants to interdisciplinary research teams in LMICs to support the design, piloting, and testing of community-informed interventions. The initiative aims to contribute to the evidence base in underrepresented communities and regions and to translate that research into evidence-informed recommendations. Each year, Sabin's social and behavioral research grant partners work with their communities to co-design research projects and interventions to improve vaccination acceptance, demand, delivery, and decision-making. In collaboration with the research teams, Sabin has produced a [four-part docuseries](#) to showcase the

work being done by grant partners and provide a platform for local voices to be heard globally.

In [Part 1](#) of the docuseries, docuseries, eight of Sabin's 2022 grant partner teams share how they designed and implemented their community-based research and interventions.

In Guatemala, researchers from the Universidad del Valle de Guatemala used a community-based approach to estimate the prevalence of COVID-19 vaccine hesitancy and understand its determinant factors among Indigenous communities in Lake Atitlán, Guatemala. In the region, COVID-19 vaccination rates are less than 25%. The project built a transdisciplinary research team by training local Indigenous youth as community researchers (Figure 2.8).

Figure 2.8. Snapshot of the project to understand COVID-19 vaccine hesitancy among Indigenous communities in Lake Atitlán, Guatemala



Image from Sabin Vaccine Institute, Vaccine Acceptance & Demand Initiative

In North Central Nigeria, researchers at Women Advocates for Vaccine Access and Direct Consulting and Logistics Nigeria collaborated to investigate the socio-behavioral drivers and determinants of COVID-19 vaccination in the Federal Capital Territory of Nigeria. Drawing on the WHO's behavioral and social drivers (BeSD) of vaccination framework,<sup>10</sup> the team first assessed the social and behavioral drivers of COVID-19 uptake among healthcare workers and eligible adults. These insights were then used to co-design and co-disseminate targeted messages using an HCD approach.

In Liberia, researchers at the University of Liberia conducted a mixed-methods study to investigate the socio-demographics and health characteristics of individuals who opted for a first dose of any COVID-19 vaccine in the country. The study also investigated the association between first dose receipt and intent to receive both doses of the COVID-19 vaccine and explored how personal experiences during the 2014 Ebola epidemic impacted COVID-19 vaccine decision-making.

In Sierra Leone, a mixed-methods study to understand perceptions and acceptance of the

COVID-19 vaccine among healthcare workers in the country is being implemented through a partnership between researchers at Loma Linda University, the Christian Health Association of Sierra Leone, and the Waterloo District Health Medical Team. Findings will be used to develop a strategy that supports vaccine acceptance among healthcare workers and will be shared with stakeholders to increase uptake among the general public.

In India, researchers from the Centre for Social and Behavior Change implemented a quasi-representative, in-person survey in rural Uttar Pradesh and Bihar to estimate demand for the COVID-19 vaccine, determinants and barriers around demand, and challenges around vaccine supply.

Another project in the Indian states of Bihar and Jharkhand is partnering with community-based organizations to design trusted COVID-19 messages for local authorities, cultural leaders, and influencers. The project is being undertaken in collaboration with the Asian Development Research Institute and Immunise, an initiative to create scalable health communication and behavior change system.

Parts 2 and 3 of the docuseries shared the methodologies and key findings from each of these projects. In Part 4 of the docuseries, partners also shared recommendations for key stakeholders, and policy, programs, and practice.

## A national youth social media campaign to mitigate rumors through humor in South Africa

## CASE STUDY 2

Community Media Trust is a not-for-profit organization that provides media production and interpersonal communication services for health and human rights. Lucilla Blankenberg, CEO, presented how a national youth social media campaign - Zwakala - was developed to mitigate rumors using humor and assist with COVID-19 vaccine uptake among youths in South Africa. To assist with COVID-19 vaccine uptake among youths in South Africa, the organization developed a national youth social media campaign to mitigate rumors using humor, called "Zwakala," with support from UNICEF. As the COVID-19 vaccine roll-out was staggered in South Africa, 18–34-year-olds were

the last age group to be eligible for vaccination and, among this group, there was a perception that COVID-19 vaccination is primarily for older people or those at risk. Consequently, there was a need to increase uptake of COVID-19 vaccination among younger people to reach the national vaccination target of 70%. Content for the Zwakala campaign was subsequently developed in collaboration with the target population, using an evidence-based approach. The Zwakala campaign showcases real people and community champions in all material, which were communicated via various media channels, including mass media, community events, digital marketing, and social media (Figure 2.9).

Figure 2.9. Example of Zwakala information, education, and communication material featuring members of the target community to drive intention to vaccinate



Image from Lucilla Blankenberg, *Zwakala National Youth Social Media Campaign to Mitigate Rumours Using Humour (in South Africa)*

Figure 2.10. Example of Zwakala campaign to address myths around vaccination

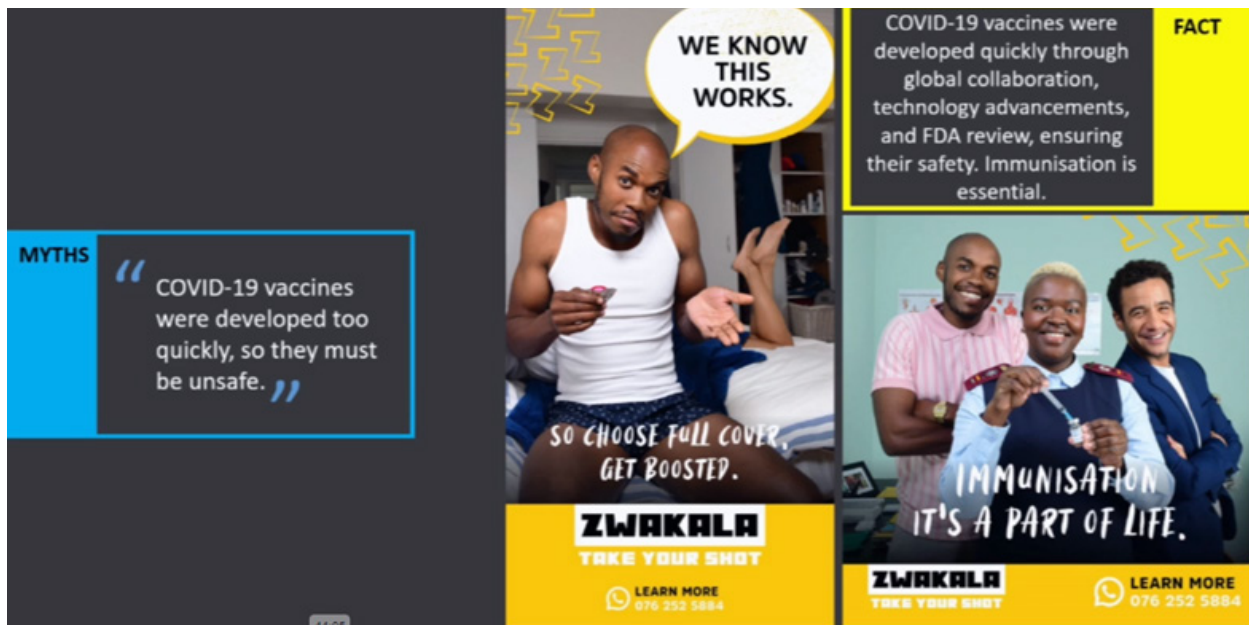


Image from Lucilla Blankenberg, *Zwakala National Youth Social Media Campaign to Mitigate Rumours Using Humour (in South Africa)*

Materials were communicated via various media channels, including mass media, community events, digital marketing, and social media. Zwakala content was also shown on mobile trucks at community events where people could get vaccinated on site.

A campaign encouraging men to get vaccinated was also developed, which featured prominent athletes. Weekly social listening reports were used to identify key trends, myths and misconceptions gathered from various sources, including social media platforms, community networks, media monitoring and dedicated hotlines. Community Media Trust used the myths, and misconceptions to adjust material throughout the campaign according to needs. Once vaccines became available, the campaign also changed focus to address common myths around vaccination (Figure 2.10). As people were getting tired of hearing about COVID-19 and vaccines, the

campaign utilized humor in its materials to connect with people, including through a humorous digital media campaign.

The digital campaigns were rolled out in two bursts, one in December 2022 and another from January to March 2023. The first campaign burst reached over 350,000 unique users, with 22.5% of users clicking through to the UNICEF page for more information. The second campaign burst reached over 7.8 million users. Of digital ads placed on Google, TikTok, Instagram and YouTube, those on TikTok had the highest view time and reached a younger audience. The humorous digital media campaign was also found to increase followers and engagement. Over 10,000 young people were vaccinated directly as a result of Zwakala’s activities and 469 community mobilizers were trained.

## Co-designing a mobile-based game to improve misinformation resistance and vaccine knowledge in East Africa and South Asia

### CASE STUDY 3

Presented by John Cook, PhD, Senior Research Fellow, University of Melbourne; Jacquelyn Ssanyu, MPH, Research Coordinator, Makerere University; Doris Njomo, PhD, MA, Principal Research Scientist, Kenya Medical Research Institute; Rubina Qasim, RN/RM, MScN, Acting Principal, Dow Institute of Nursing & Midwifery, Dow University of Health Sciences, Karachi, Pakistan: [“Co-Designing a Mobile-Based Game to Improve Misinformation Resistance and Vaccine Knowledge in East Africa and South Asia.”](#)

Another innovative approach has been “Cranky Uncle Vaccine”, a free digital game that teaches users how to spot vaccine misinformation tricks that might be seen on social media or heard from a family member or friend (e.g., a cranky uncle). The game uses “inoculation theory”, which is the concept that exposure to weakened forms of misinformation builds “immunity” to being misled. The game goes through the 10 most common fallacies in vaccine misinformation, identified through a literature review of studies documenting different vaccine myths and

common misinformation used in them. These are: appeal to nature (the assumption that something is good because it is natural, or bad because it is not natural), post-hoc fallacy (the assumption that an event was the cause of a later event because it happened earlier), conspiracy theories, arguing evil intent, cherry picking of information, use of anecdotes, ad hominem arguments (i.e., those directed against a person rather than the

topic in question), impossible expectations, misrepresentation of information, and the use of fake experts. The game takes players through each technique and how it distorts facts, by combining factual information about how vaccines work (known as fact-based inoculation) and logic-based inoculation to explain how the different fallacies or techniques distort facts (Figure 2.11).

Figure 2.11. Use of fact-based and logic-based inoculation techniques in the Cranky Uncle game

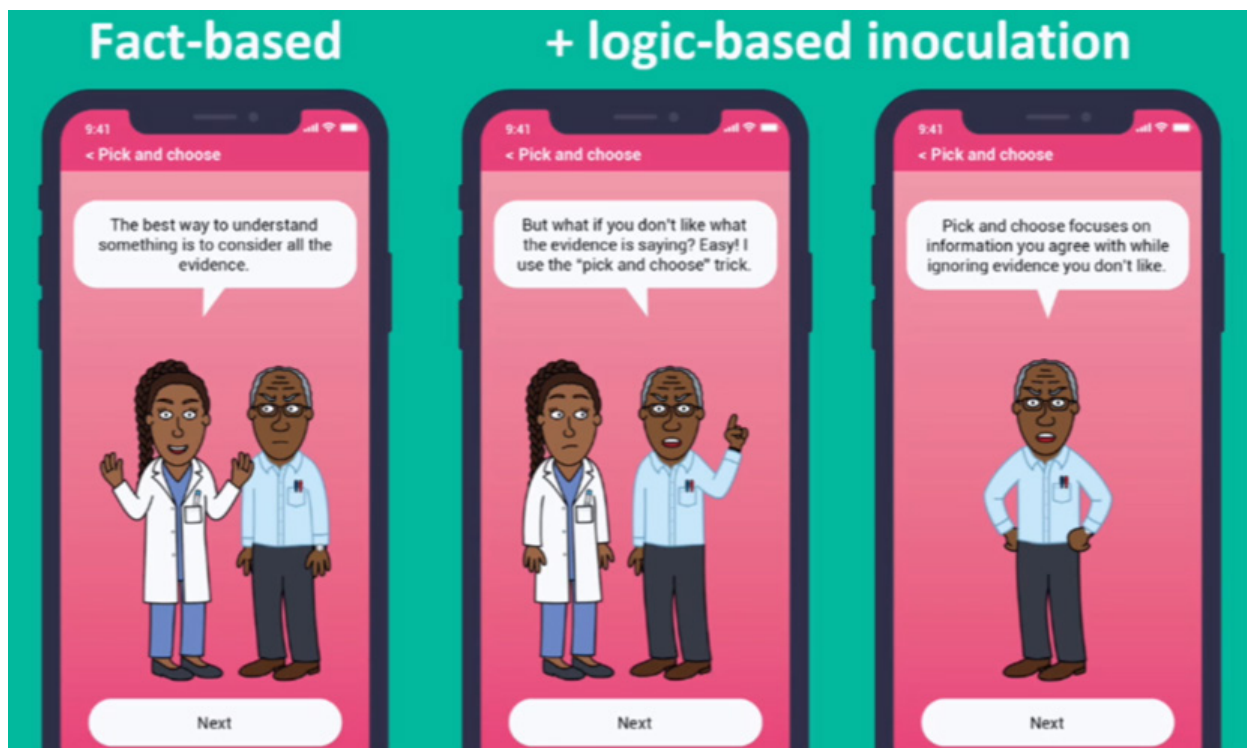


Image from Dr. John Cook, Jacquelyn Ssanyu, Dr. Doris Njomo and Rubina Qasim, *Co-Designing a Mobile-Based Game to Improve Misinformation Resistance and Vaccine Knowledge in East Africa and South Asia*

The game has been adapted for East African and South Asian contexts through a community-led co-design process conducted in each region (Kenya, Rwanda, Uganda; and Pakistan) to ensure the game is culturally relevant and resonates with the relevant groups. In each participating country, the game's script and characters were co-created with the communities to ensure that the content is relevant and responsive to the context and culture. Small groups of 8–10 community members (young people, health workers, medical students, and caregivers of young children) were 'invited to workshops and asked for feedback while playing a demo version of the game. Participants provided insightful feedback, such as recommending that points be deducted for incorrect answers and that the game should provide congratulatory messages or animations for achievements. Sketches of the characters were also printed out and pinned on the wall for participants to review and share their feedback. Figure 2.12. shows the evolution of the young woman character in the

East African version of the game, based on participant recommendations that the woman look more modern in terms of her hairstyle, clothes, makeup, and accessories.

Figure 2.12. The evolution of the young woman character for East Africa through co-design with the community

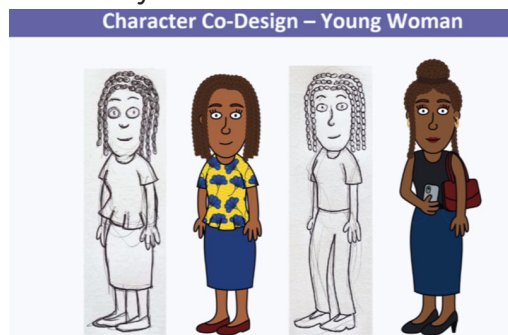


Image from Dr. John Cook, Jacquelyn Ssanyu, Dr. Doris Njomo and Rubina Qasim, *Co-Designing a Mobile-Based Game to Improve Misinformation Resistance and Vaccine Knowledge in East Africa and South Asia*

A sixth character, a man in a wheelchair, was added on the recommendation to make the game more inclusive. The game's script was also revised to make the game more culturally relevant, and terminology was simplified to make the game accessible.

Preliminary results from a pilot study evaluation of the game in Kenya and Uganda found a general improvement pre- and post-game in agreement with vaccine facts in Kenya and a significant improvement in agreement with vaccine fallacies in both countries. In addition, the evaluation identified significant improvements in general vaccine attitudes and the likelihood of getting vaccinated in both countries.

The immunization service experience includes the factors within and beyond the interactions between a health worker and an immunization client that influence the delivery and experience of the immunization service. A person's experience prior to, as well as during an immunization service can influence their feelings and behaviors around future immunization and health services.

Figure 2.13. Key components of positive, person-centered immunization service experience



Image from JSI. Immunization Service Experience Toolkit. Available from: <https://www.jsi.com/service-experience-toolkit/>

## 6. Improving the immunization service experience is important to strengthen trust in health systems and improve vaccine demand and uptake

Improving the immunization service experience strengthens trust in health systems, translating into greater vaccine uptake and healthier lives for children and their families. Conversely, a negative immunization service experience can build mistrust, refusal, and lack of participation in immunization or other primary healthcare services. People are also likely to share negative experiences with peers, so one negative experience can cause a ripple effect throughout the community. Consequently, ensuring immunization services are person-centered is an important component of ensuring good vaccine uptake and demand (Figure 2.13, full-size on page 39).

Behavioral science plays an important role in optimizing the immunization service experience and ensuring that services are people-centered and designed with the community in mind (or ideally, with the community itself). This is important, as including community members in the design, delivery, and monitoring of services fosters greater acceptance and accessibility of interventions.

A side event facilitated by JSI with partners from the Vaccination Demand Hub looked at the role of behavioral science approaches in improving service experience. Two main models are being used by JSI to improve immunization service experiences. The first is the WHO's BeSD model, which provides a framework to understand what drives vaccine uptake. The behavioral and social drivers of vaccination are defined as beliefs and experiences related to vaccination that can be modified to increase vaccine uptake and are grouped in four domains: 1) thinking and feeling about vaccines; 2) social processes that drive or inhibit vaccination; 3) motivation (or hesitancy) to seek vaccination, and 4) practical issues involved in seeking and receiving vaccination.

Figure 2.13. Key components of positive, person-centered immunization service experience

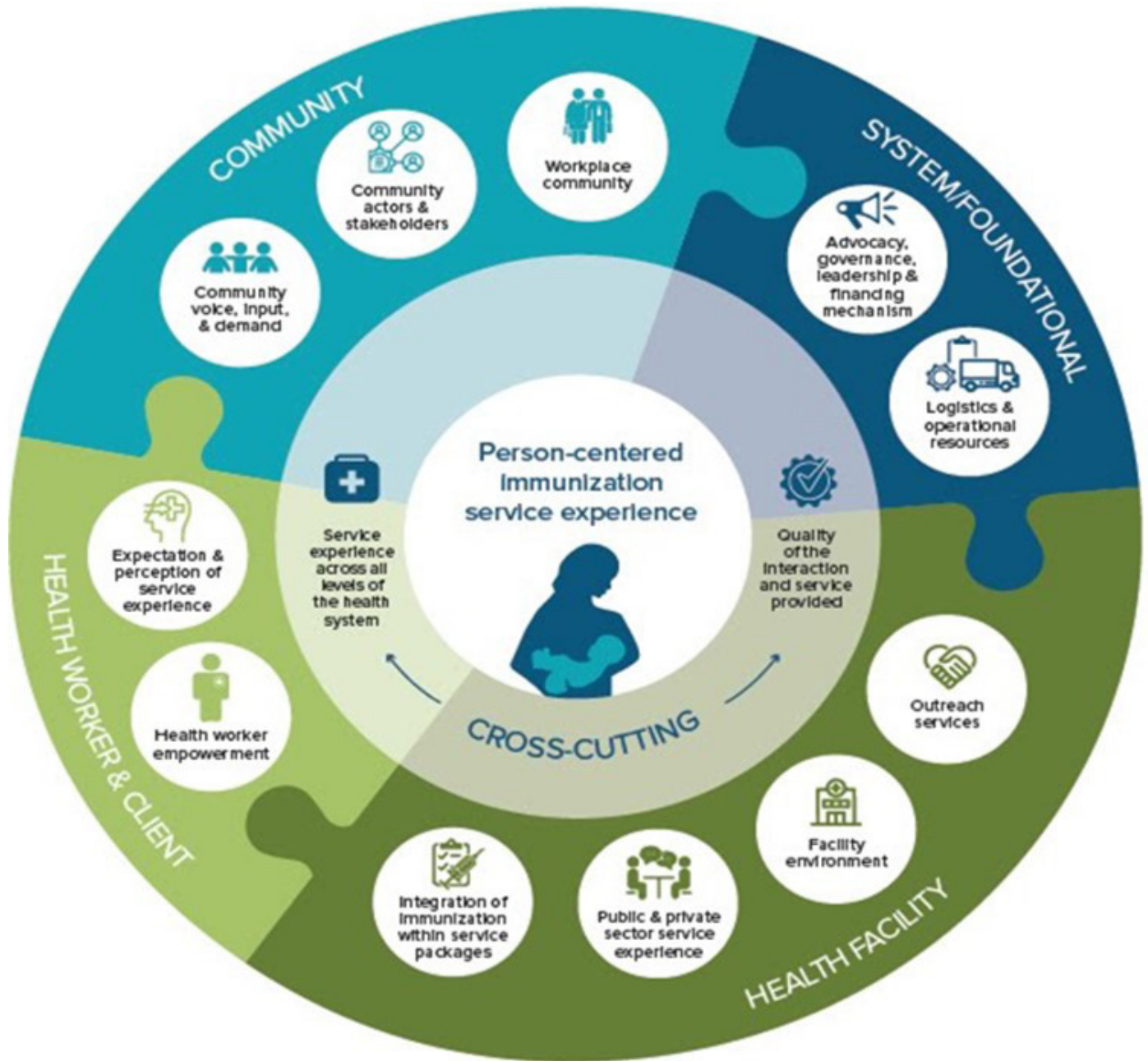


Image from JSI. Immunization Service Experience Toolkit. Available from: <https://www.jsi.com/service-experience-toolkit/>

The second model is the “journey to health and immunization model,” developed by UNICEF and partners (Figure 2.14), which provides a human-centered overview of the different barriers and drivers that may affect healthcare workers and caregivers across the immunization experience.

These frameworks have been applied in several countries to optimize the immunization service experience. In one example from Nepal, the two approaches were applied to understand where the

immunization and health journey could be improved. Initially, BeSD of vaccination were collected from caregivers, healthcare workers, and community health volunteers in Kathmandu and then mapped onto the “Journey to Health & Immunization” framework to pinpoint enablers and barriers across the immunization and health journey.

Findings from this process revealed that, in terms of knowledge and awareness, parents reported a fear of being scolded by healthcare workers if they

Figure 2.14. The journey to health & immunization

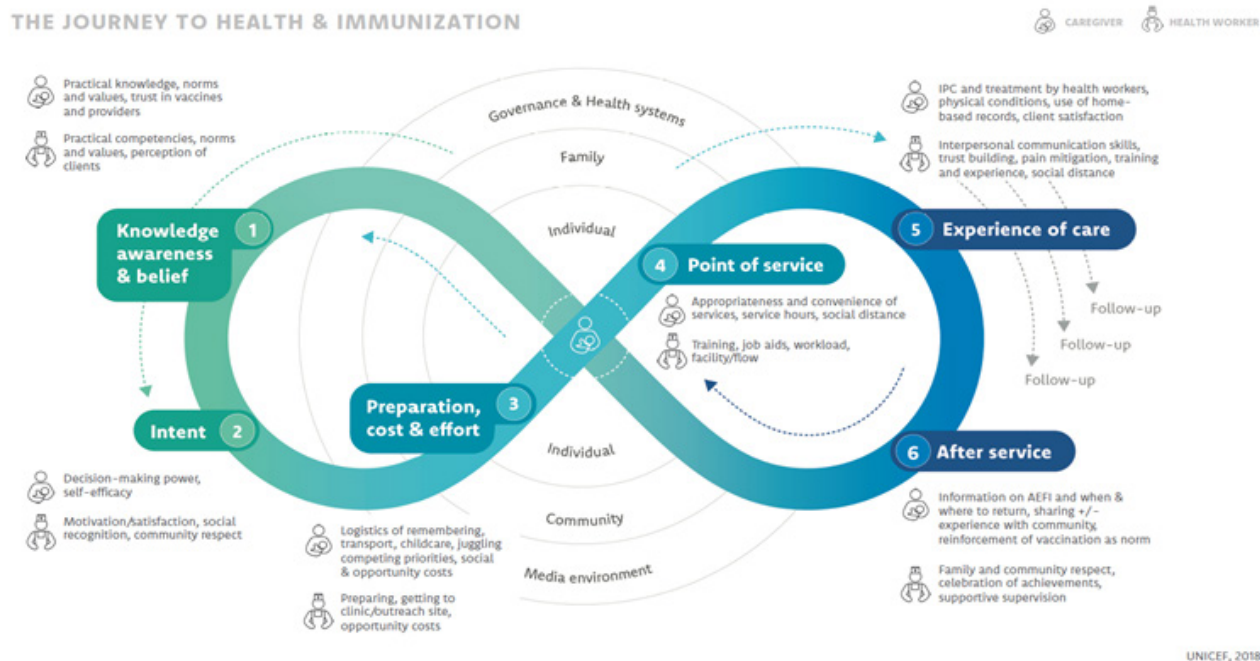


Image from UNICEF, *Demand for Health Services A Human-Centred Field Guide for Investigating and Responding to Challenges*. Available from: [https://www.unicef.org/innovation/sites/unicef.org/innovation/files/2018-11/demand\\_for\\_healthservices\\_fieldguide.pdf](https://www.unicef.org/innovation/sites/unicef.org/innovation/files/2018-11/demand_for_healthservices_fieldguide.pdf)

did not have their child’s vaccination card. There was also limited knowledge of health services and the importance of immunization, as well as a fear of vaccine side effects. In terms of intent, there was a lack of decision-making power held by female caregivers, with power instead held by male caregivers and other family members. In terms of preparation, cost, and efforts, there was a lack of family support for childcare in Kathmandu, and competing household, social, religious, and economic priorities. The service environment was also noted as not being client friendly. In particular, the migrant community did not receive service information and language barriers prevented access to immunization services. In terms of the experience of care, caregivers reported rude, discriminatory healthcare worker behavior, and having to return to the facility several times for vaccination services because they arrived on a non-scheduled vaccination day. After the immunization service, husbands sometimes scolded their wives when children cried all night following

vaccination. Caregivers also shared that there was a lack of communication by the service provider on follow-up visits and potential adverse events following immunization. In addition, caregivers feared discrimination or not receiving services at a follow-up visit, and that their child would get sick after vaccination. Interventions on training healthcare workers on respectful care, HCD and social and behavior change communication, and home-based counseling were subsequently implemented to address these barriers.



## Encourage innovative, community-centric solutions for improved routine immunization coverage

### THEME 3

Routine immunizations are an essential component of a healthy life, preventing 2–3 million deaths each year in children.<sup>11</sup> Children who have incomplete or no immunizations are vulnerable to vaccine-preventable deaths and are often already subjected to deprivation and disadvantages due to poverty, lack of access to health services, and living in fragile and conflicted settings. This theme explores the evidence generated and shared around community-based solutions to close critical gaps in childhood essential immunization coverage and improve demand for and uptake of routine immunizations.

### 7. Innovative, community-centric programs are needed to continue recovery from backsliding in childhood essential immunization coverage

The COVID-19 pandemic had a devastating impact on routine immunizations, with 25 million children missing out on routine childhood immunizations against critical diseases in 2021.<sup>2</sup> Catch-up efforts have been helping to close these gaps, and we are now beginning to see signs of global recovery. Although signs are promising, recovery has been uneven, and 20.5 million children are still missing life-saving essential immunizations globally.<sup>2</sup> Low-income countries are also yet to show signs of recovery. Intensified efforts and innovative approaches are needed to reach children who are still being missed.

Recognizing that there is no one-size-fits all solution to this complex issue, community-centric programs are needed to reach children who are under-vaccinated, particularly as they often belong to marginalized communities facing multiple barriers to vaccination.

## Use of social influencers to increase demand for routine childhood immunizations among working mothers in Nigeria

### CASE STUDY 1

Presented by Mofeyisara Omobowale, PhD, Lecturer, Institute of Child Health, College of Medicine, University of Ibadan, Nigeria: "[Increasing Demand for Vaccination Through Innovative Childhood Immunization Strategies for Working Mothers in Ibadan: The Role of Social \(Relations\) Influencers.](#)"

In Ibadan, Oyo state, Nigeria, an innovative strategy using social influencers was deployed to increase demand for routine childhood immunizations among working mothers. Demand for childhood vaccination in Nigeria is still very low, particularly among working mothers, despite several campaigns. In Oyo state, only around 23% of children have received all basic vaccinations and 9.3% of children are zero-dose. Markets in Nigeria accommodate about 70% of women working in the informal sector, and many of these have children under five years of age. In Ibadan, the market space is where many infants and children are fostered communally while mothers are working. Many of these mothers miss community household immunization programs due to the long hours they spend in the market and the inconvenience and economic impact of leaving work.

A baseline study identified many myths, rumors, and misconceptions around vaccination, and that the limited decision-making power of women affected childhood vaccination decisions. Subsequently, an intervention was developed to offer mobile clinic services close to mothers in the market and deploy vaccine social influencers to increase demand for routine childhood immunizations. The social influencers are opinion leaders or individuals who have influence over a target group, which may be related to gender, age-group, peer-group, work, or skills. Social influencers had to have a good layperson knowledge of vaccines and, at one time, had to have gotten vaccinations for themselves or their family. The project deployed several social influencers aged between 35 and 82 years, who were found to have a meaningful impact on changing views around vaccination. As an example, one influencer encountered a client who wanted to take her child for vaccination but shared that it was taboo to "use needles" on a baby in her husband's family. In this case, the influencer was able to speak to the client's husband, get the vaccination card for the child, and complete vaccination for the child in question.

The intervention was tested on 156 children of working mothers in the market space; 46% of these were zero-dose children and 54% had missing vaccinations. The influencers were able to reach mothers and change their perceptions by speaking to them in a language they understand, with appreciation of the context. The intervention also

improved uptake at the mobile clinics, as 30% of mothers who attended the clinics were brought by influencers. The experience demonstrates the value of social influencers for reaching mothers, who face numerous systemic barriers to accessing vaccination, particularly if working in an informal sector.

## Engaging the private sector to improve routine childhood immunization in Indonesia

## CASE STUDY 2

Presented by Septrina Frisca Tobing, MAAPD, Lead Researcher, Empatika: "[Engaging Private Sector to Increase Routine Childhood Immunization in Indonesia.](#)"

Work undertaken in Indonesia, commissioned by UNICEF Indonesia, engaged the private sector as a way to increase routine childhood immunization. Complete routine immunization plateaued in Indonesia during the COVID-19 pandemic, with an increase in unvaccinated children increased. Childhood immunization coverage is lower among working parents, particularly those who work in labor-

intensive and informal sectors. In this setting, the private sector can play a strategic role in increasing vaccination uptake through enabling policies that bring healthcare services closer to parents and improve access to immunization programs. In this study, over 4400 parents (58% women, 42% men) of children under five years of age working in labor-intensive, private-sector jobs across the country were engaged to understand their experiences of taking a child for routine immunization. Findings were mapped across different stages of the immunization journey (Table 1).

Table 1. Barriers to taking children for routine immunizations among parents working in the private sector in Indonesia

Receiving information	Managing schedules	Choosing health provider	Post-immunization
<ul style="list-style-type: none"> <li>Workplaces do not provide information about immunization</li> </ul>	<ul style="list-style-type: none"> <li>Immunization schedules clash with work hours</li> <li>No standard procedure to take time off work</li> <li>Daily workers face salary cuts</li> </ul>	<ul style="list-style-type: none"> <li>Very few workplaces provide immunization support</li> <li>Difficult to access posyandu (community health post)</li> </ul>	<ul style="list-style-type: none"> <li>Need to take time off if children experience adverse events following immunization</li> <li>Working parents worry about adverse events</li> </ul>

Many of the working parents reported that the immunization schedules clash with work schedules, as many parents rely on services provided by community health centers, which usually take place during the working day (Figure 3.1). In addition, there is a lack of standardized procedures to take time off for immunization and a hesitance to ask for leave to avoid burdening co-workers. Daily/non-permanent workers also face salary cuts if taking time off. These challenges are mainly faced by women workers, as immunization is considered "a woman's job."

Based on these findings, the study report proposes several recommendations for the private sector to support increased uptake of childhood immunization.

The first recommendation is that employers provide flexible working hours or additional leave to parents of children under two years of age to allow them to seek immunizations for their children. Companies can do this by developing clear and standard procedures, noting these in worker contracts, and ensuring workers are aware of these provisions. Second, employers can enhance employee access to immunization by offering workplace clinics or transportation to immunization providers where this is not feasible. Third, employers can help fill the information gap around childhood immunizations by developing an integrated immunization portal to share key messages with parents related to immunization schedules and age recommendation, benefits, vaccine safety, and adverse events following

Figure 3.1. Parent-reported challenges and difficulties in routine immunization for child

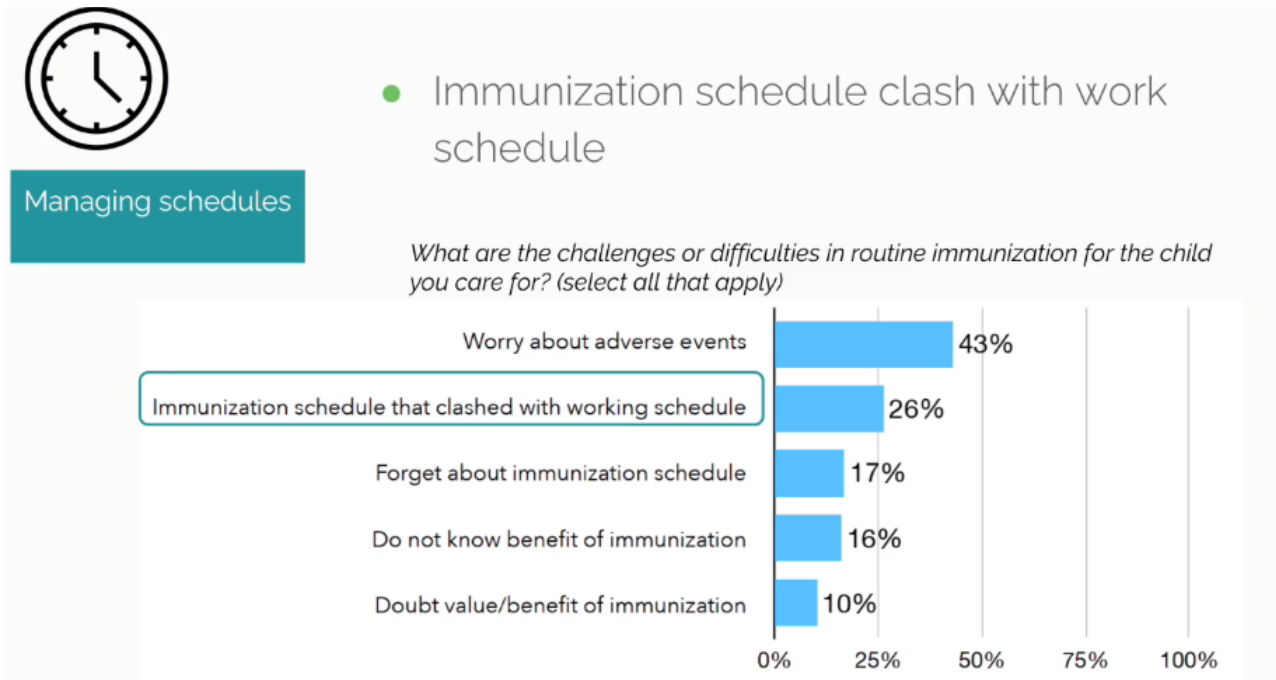


Image from Seprina Frisca Tobing, *Engaging Private Sector to Increase Routine Childhood Immunization in Indonesia*.

immunization. In partnership with Puskesmas or Primary Health Care services in their areas, the private sector can arrange a briefing session on health and

immunization to disseminate timely information and educate working parents/caregivers during staff orientation, at break rooms, or in lactation rooms.

## The use of community-oriented primary care model to generate vaccine demand in a remote fishing community in Cameroon

### CASE STUDY 3

Presented by Dr. Sangwe Clovis Nchinjoh, MD, MPH, MSc, Founder and Board President, Rural Doctors & Associate at Clinton Health Access Initiative, Cameroon: [“The Use of Community-Oriented Primary Care \(COPC\) Model to Generate Vaccine Demand: The Case of a Remote Fishing Community in Cameroon.”](#)

In Cameroon, a COPC model was used to generate vaccine demand and an integrated package for vaccination services in a remote fishing community. Despite substantial investments from the Ministry of Health and partners, vaccination rates among children are concerningly low in Manoka Health District, a cluster of islets in coastal Cameroon. Almost all children (91.7%) in these fishing communities were zero-dose at the start of the project, resulting in several epidemics of vaccine-preventable diseases, notably measles. A key issue in the area is that health projects are only carried out when there is funding available; consequently, sustainable solutions are needed to vaccinate zero-dose children. To meet this need, a COPC model, adapted from work done by Joseph H. Abramson and Sidney L. Kark,<sup>12</sup> was applied to generate vaccine demand.

“Successfully vaccinating zero-dose children in missed communities requires integrative approaches that prioritize local health needs based on the community’s perspective, not yours.”

Dr. Sangwe Clovis Nchinjoh, MD, MPH, MSc, Founder and Board President, Rural Doctors & Associate at Clinton Health Access Initiative, Cameroon

Figure 3.2. The community-oriented primary care (COPC) model

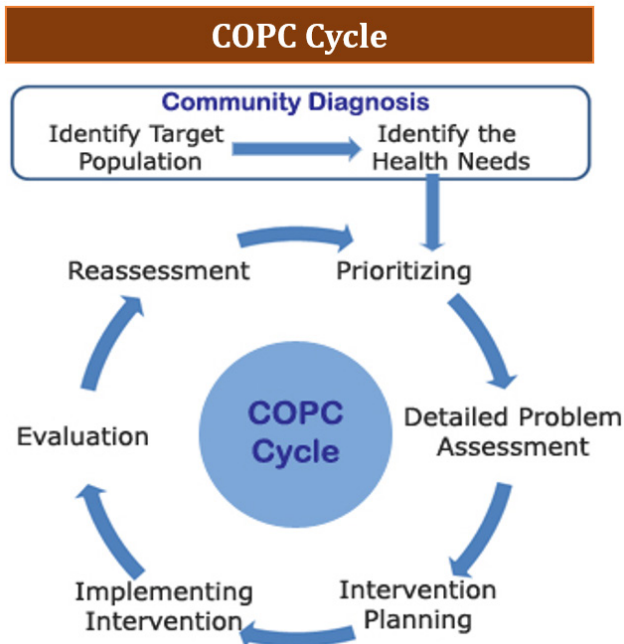


Image from Primary Care Online Resources and Education, *The Use of Community-Oriented Primary Care (COPC) Model to Generate Vaccine Demand: The Case of a Remote Fishing Community in Cameroon*

The detailed problem assessment identified that Manoka Health District is a hard-to-reach zone with a single health facility, which lacks functional cold-chain equipment to cover the 47 islets in the district. Diurnal and seasonal variations in floods, the remote location, sea turbulence, infrastructural and resource constraints, as well as an immigrant population without residence permits, are among the factors hindering childhood vaccination. In addition, insufficient community healthcare workers and a lack of effective community engagement hamper impactful communication and vaccine uptake during campaigns. Reasons for vaccine hesitancy in the community included a preference for hospital-based vaccination over vaccination at home, fear of post-vaccination fever, rumors, repeated postponement of vaccination schedules, and refusal by some ethnic group leaders.

The community-oriented primary healthcare model (Figure 3.2) works by identifying the health needs of the target population and developing interventions within the context of the health system components and other priorities.

Communities like the remote fishing community in Cameroon face multiple socioeconomic challenges. People often understand the importance of vaccines, but immunization is not a priority for them, given the many other pressing challenges that people face. These communities are also heavily affected by climate change, with people having to move houses as a result of floods, which further complicates the delivery of last-mile vaccination and has led to cholera epidemics. Consequently, it is important to undertake assessments to properly understand the context and challenges that act as barriers to vaccination. Figure 3.3 outlines the prioritization system that was developed and applied to evaluate the context and priorities of the fishing community in this project.

Figure 3.3. The prioritization system to assess community priorities around health

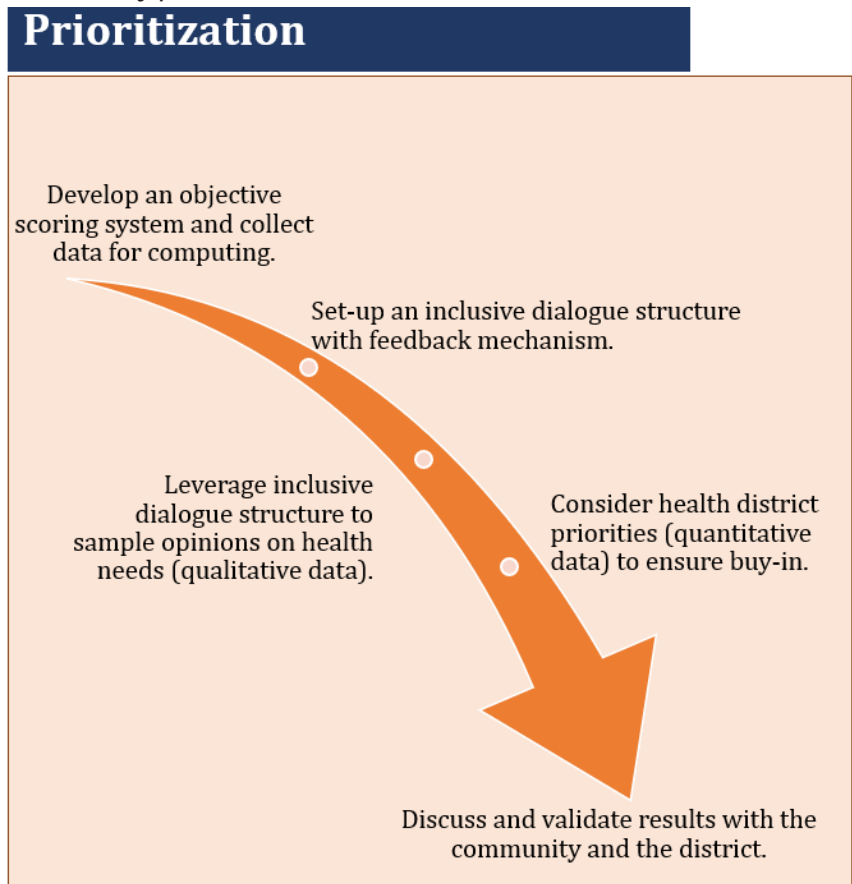


Image from Sangwe Clovis Nchinjoh, *The Use of Community-Oriented Primary Care (COPC) Model to Generate Vaccine Demand: The Case of a Remote Fishing Community in Cameroon*

Based on the findings, community healthcare workers were trained to offer packages during home visits to address these specific barriers to vaccination. These included identifying, counseling, and referring children under two years for vaccination and conducting rapid diagnostic tests for malaria. As part of the home visits, community healthcare workers also provided care for children under five years, using locally prepared oral rehydration solutions to manage

cases of diarrhea and conducted home-based antenatal care. The intervention was successful in increasing trust and vaccine demand. The proportion of children who were referred and vaccinated increased from 0% in the first month to 44% during a period of six months.

Figure 3.3. The prioritization system to assess community priorities around health

	District Priority	CHW involvement	Cultural acceptability	Impact on vulnerable population	Total Score
<b>Malaria</b>	3	3	3	3	12
<b>Water and food borne diseases (cholera inclusive)</b>	3	3	3	3	12
<b>Maternal complications</b>	3	3	3	2	11
<b>Acute Respiratory Tract Infection</b>	2	3	2	2	10
<b>Hypertension</b>	2	2	2	2	8
<b>HIV/AIDs</b>	3	1	1	3	8
<b>Measles</b>	2	2	2	2	8
<b>Diabetes</b>	2	1	2	2	7
<b>Skin diseases</b>	1	1	3	1	6
<b>STI</b>	2	1	1	1	5

Image from Sangwe Clovis Nchinjoh, *The Use of Community-Oriented Primary Care (COPC) Model to Generate Vaccine Demand: The Case of a Remote Fishing Community in Cameroon*

## Use of community mobilizers and community action groups to improve COVID-19 and routine immunizations in India

### CASE STUDY 4

In India, the CORE Group Partners Project (CGPP) has supported government efforts in childhood vaccination since 1999, by deploying a multi-level network of mobilizers to assist with mobilizing communities for polio and routine immunizations in high-risk or hard-to-reach areas of Uttar Pradesh. During the COVID-19 pandemic, the project redeployed mobilizers to promote COVID-19-appropriate behavior and assist the government with COVID-19 vaccination. In the presentation "[Value of Deploying Community-Level Mobilizers to Mobilize Communities and Boost or Rebound Vaccination Uptake: CORE Group Partners Project's \(CGPP\) Experience in Increasing Polio, Routine Immunization, and COVID-19 Vaccination in Hard-to-Reach Areas of Uttar Pradesh, India](#)," Manojkumar Choudhary, PhD, MPS (CGPP), discussed the value of deploying additional skilled community mobilizers to address demand-side vaccine barriers and increasing vaccine coverage. Currently, the CGPP India covers 15 districts across Assam, Haryana, and Uttar Pradesh and reaches over 4 million people between the polio/routine immunization and COVID-19 interventions.

Key activities of CGPP's community mobilizers include tracking vaccine "defaulters," personalized communication through one-on-one and group interactions, and engagement with local influencers to convince vaccine-hesitant or resistant families. Mobilizers also work on awareness creation through media activities and aid to vaccinators at vaccination sites or with house-to-house vaccination. An assessment of the program's impact found that performance of the polio immunization program was significantly higher in areas with community mobilizers than the non-intervention areas. Polio booth coverage for the study period (March 2012 to September 2017) was increased by around 15.8% in the intervention areas. The use of community mobilizers also helped with maintaining a high level of routine immunization coverage among children 12–23 months, even during the COVID-19 pandemic. In study areas, the percentage of zero-dose children was less than 5%. In addition, the interventions contributed to significant increases in COVID-19 vaccination coverage and reducing the gender gap in coverage rates between men and women. Together, the findings show the value of deploying additional human resources dedicated to community mobilization to facilitate vaccination targets in hard-to-reach areas or those where immunization programs face notable difficulties.

The CGPP used community action groups to rebound routine immunization coverage slowed down by the COVID-19 pandemic in Uttar Pradesh. Insights from Project Concern International (PCI), one of the implementing partners of CGPP in India work areas (five districts), were presented by Yatender Singh, MSW (PCI) in the presentation "[Rebounding Routine Immunization Coverage Slowed Down by COVID-19 Pandemic: How Community Action Groups \(CAGs\) Came Forward and Turned the Tide in Uttar Pradesh, India](#)." Routine immunizations were deprioritized due to the pandemic and around 59% of planned routine immunization sessions could not be conducted during the first COVID-19 lockdown in India. The project was undertaken in Uttar Pradesh in a catchment area covering 1.6 million people and over 35,000 children under one year of age. To support this program, CGPP-PCI deployed one program manager, four district mobilization coordinators, and 24 block mobilization coordinators who supported the government frontline workers. CGPP-PCI organized formal and informal meetings with local organizers to discuss issues around vaccination and develop an action plan to address challenges arising as a result of the COVID-19 pandemic. Through the project, 12,000 surgical or handmade cotton face masks were distributed by influencers in the community. Support was also provided to frontline workers with antigen tests and mobilizing the community to maintain COVID-19-appropriate behavior.

Initially, CGPP drew on support of influencers from the polio network when the first COVID-19 lockdown was in place. Local influencers came forward to help the community by providing medicines, dry rations, financial assistance, identification and mobilization for COVID-19 tests, transport to facilities, and psychosocial support in consultation with CGPP staff. As the initial support was not structured, CGPP formed community action groups to enable synergistic community support. The community action groups comprised community health workers, village heads/ward members, ration dealers, teachers, local doctors/"quacks," ex-Pradhan (leaders), religious leaders, and youth who voluntarily offered their time. CGPP also deployed 264 community mobilizers in the intervention districts to assist with catching up COVID-19 and routine immunizations. The community mobilizers worked to ensure support from stakeholders, networking and coordination, and capacity building of frontline workers.

More than 2000 community action group members were trained on the importance of routine immunization and COVID-19-appropriate behavior in the intervention districts. After training, the community action groups supported CGPP field functions with various social mobilization activities, such as community meetings, information booths, and visiting vaccine-hesitant families to mobilize them for vaccination. CGPP also developed and distributed information, education, and communication to the community action group members and community healthcare workers to address information gaps and increase uptake of routine immunization. Overall, community action groups members contacted over 5000 community members and mobilized 1365 vaccine-hesitant families for routine immunization in the catchment area. During this period, coverage of the oral polio vaccine increased from 48.3% in June 2020 to 74.9% by March 2023.



## Strengthen vaccination across the life course through building vaccine demand and service integration to contribute to pandemic preparedness and maximize the benefits of future vaccines for all

### THEME 4

#### 8. Building vaccine confidence and demand is critical to strengthen vaccination across the life course, which will contribute to pandemic preparedness and maximize the benefits of future vaccines for all

Vaccination is vital to protect health through all phases of life. The life-course approach to immunization addresses an individual's needs for different vaccines at different stages of life, depending on their specific vulnerabilities to infectious diseases. Life-course immunization encompasses the need for routine childhood immunizations, immunizations against seasonal illnesses like influenza and pandemic diseases such as COVID-19, and immunization against diseases that affect people later in life (such as HPV).



#### Approaches to strengthen life-course immunization programs

##### HPV

The introduction of newer vaccination programs at different stages of life, notably the HPV vaccination program in young people, requires specific strategies to foster confidence and demand. Despite the availability of highly effective HPV vaccines since 2006, HPV still causes almost all of the estimated 342,000 deaths from cervical cancer each year.<sup>13</sup> Nearly 90% of these deaths occur in LMICs<sup>13</sup>, reflecting substantial global inequity in HPV vaccination. Intensified efforts are needed to improve HPV vaccination uptake where it is most needed and bring about a future free of HPV-related cancers.

Confidence in HPV vaccination has been affected by several factors, including public mistrust in the vaccine due to perceived safety concerns, low perceived risk from HPV, and concerns that the HPV vaccine may lead to sexual promiscuity. In the presentation "[Challenges for Mothers in Rural Areas \[of Nigeria\] in the Uptake of HPV Vaccines Among Their Children in a Developing Country](#)," Chinedu Anthony Iwu, MBBS, MPH, MBA, (Consultant, Imo State University), highlighted a very low knowledge of HPV and low income as limiting factors to vaccination among mothers living in a rural community in Imo State, Nigeria. Among the mothers interviewed,

more than two-thirds (68%) had not heard of HPV infection. Similarly, low to non-existent knowledge of cervical cancer, HPV, and HPV vaccination among young men and women was identified in a study in India, shared in the presentation "[Knowledge and Acceptability of HPV Vaccination for Young Adult Women in Rural Mysore District, India: A Mixed-Methods Study](#)," by Kiranmayee Muralidhar, MBBS, MPH, (Public Health Research Institute of India). In an analysis of the most important qualities that impact whether young women accept or reject the vaccine, social attributes (family support and friend influence) were found to have the greatest impact on likelihood to accept the HPV vaccine. Most women reported that healthcare decision-making was done jointly with another member of the family. Other qualities that impacted HPV vaccine acceptability included cost, personal risk of HPV infection, side effects, and vaccination location. Although cost was found to be less important than social support, it remains a barrier and partial or full government subsidization would maximize uptake.

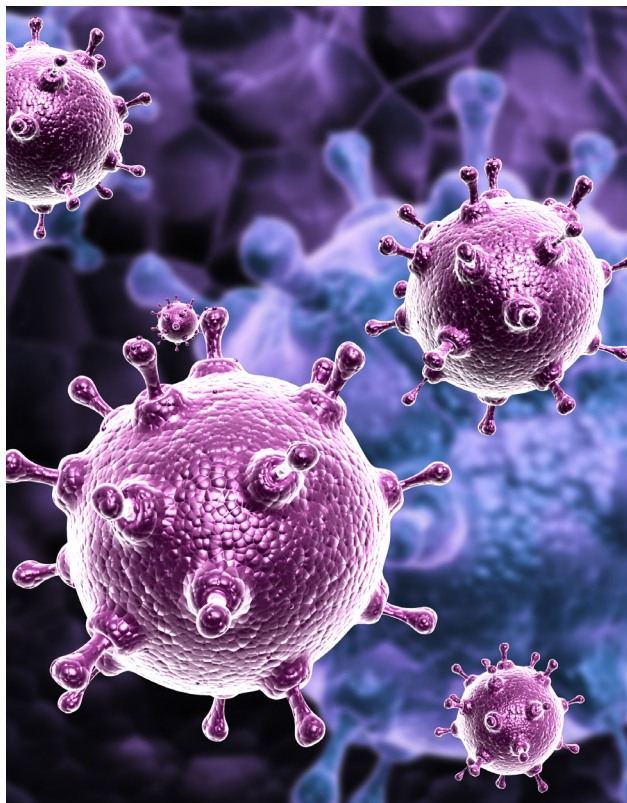
Concerns about side effects was also noted as an issue in the presentation "[HPV Vaccination in Kenya: Factors Associated with Uptake](#)" by Corrina Moucheraud, ScD, MPH (University of California Los Angeles). In a survey of parents/caretakers of



girls aged 10–13 years in Kenya, although 95% of parents/caretakers felt the vaccine was important and effective, 45–50% were concerned about short- or long-term side effects from the vaccine. Attitudes about routine childhood immunizations were not correlated with attitudes about HPV vaccination, highlighting the presence of distinct perceptions and concerns about the HPV vaccine. Talking with others about the HPV vaccine and feeling that other parents are vaccinating their daughters against HPV were the strongest correlates of reported uptake.

Gender-based dynamics also affect perceptions around HPV vaccination. Heidi J. Larson, PhD (The Vaccine Confidence Project, London School of Hygiene & Tropical Medicine), spoke about the challenges presented by the perception of HPV as a “female-only” vaccine, in the presentation [“HPV and the Challenges Presented by the Perception and Practice of a ‘Female Only’ Vaccine.”](#) Instead, developing gender-neutral HPV vaccination policies will be vital to mitigate several of the concerns around HPV vaccination and reframe vaccination as something important for every young person as part of good health and protection against cancer.

## Influenza



Sabin has also undertaken work around how influenza immunization programs can be optimized to strengthen life-course immunizations and pandemic preparedness, particularly in middle-income countries. Influenza poses both a seasonal burden – with up to 650,000 people dying from seasonal influenza each year – and a severe pandemic threat.<sup>14</sup> However, access to influenza vaccination is inequitable, as 50% of the global population only receives 5% of influenza vaccine doses. Consequently, many countries do not meet the 75% influenza vaccine coverage target for older adults and at-risk individuals set by the World Health Assembly and European Council.<sup>15</sup> Although prior research has explored the policy and programmatic factors that can improve and maintain influenza vaccine coverage rates in high-income countries, the same research has not been conducted in middle-income countries. In the presentation [“Exploring Determinants of Response-Ready Influenza Vaccination Programs in Middle-Income Countries,”](#) Marissa Malchione, MS (Sabin Vaccine Institute), shared findings from the research, identifying factors that have driven influenza vaccine coverage in five case study countries: Albania, Bolivia, Brazil, South Africa, and Thailand.

Five themes emerged as consistent indicators of positive program trajectories and response readiness:

- 1. Decision-makers rely on robust data to increase procurement and program funding.** Consequently, it is critical to invest in locally relevant surveillance and research to build a strong evidence base. This evidence also needs to be effectively and regularly communicated to national-level decision-makers. All five case study countries conduct sentinel site Influenza-Like Illness and Severe Acute Respiratory Infection surveillance, report disease burden data to WHO, and conduct after-immunization reporting of adverse events.
- 2. Procurement and supply-side delays impact vaccine confidence and uptake, and it is therefore important to establish alternative procurement solutions to ensure affordable and timely access to influenza vaccines.** PAHO's Revolving Fund is an example of an effective pooled procurement mechanism, which has been utilized by Bolivia to procure influenza vaccines. COVID-19 has also reaffirmed the need for regional manufacturing capacity to support global vaccine supply and ensure equitable access to that supply.
- 3. Frontline health workers drive vaccine uptake as trusted members of the community; this finding was clear across case studies.** This highlights the need for investment in regular trainings and workshops that educate health workers on vaccine efficacy and that equip them with strategies for dispelling mis- and disinformation.

- 4. Community-tailored demand generation efforts work to boost vaccine confidence and uptake.** Beyond budget for dose donations, it is critical for countries to dedicate investment towards the implementation of vaccination campaigns in creative ways that resonate with the target populations. Among the five case studies, several examples of community-tailored approaches were observed that increased both confidence and uptake of influenza vaccines.

- 5. Investment in life-course immunization and influenza vaccine infrastructure is vital for pandemic preparedness.** Case study countries indicated that, during the pandemic, infrastructure used for seasonal influenza vaccination was leveraged for nearly every element of the planning for and delivery of COVID-19 vaccines. There are also reciprocal investments to sustain and expand influenza vaccination programming. As middle-income countries face competing health priorities and limited resources that require tradeoffs in investment decision-making, investments that can be leveraged for both regular seasonal use and in times of active outbreak response for an emerging or re-emerging infectious disease offer the needed return on investment.



## 9. Integrating life-course vaccines with primary healthcare and other elements of service delivery can boost demand, uptake, and service delivery

For sustainable vaccination success, we need to focus on the integration of routine and life-course immunizations with primary healthcare and other elements of service delivery, especially given the conflicting priorities that exist in many settings. Presenters shared insights around the need for the integration of routine and life-course immunizations and approaches that have been investigated to integrate service delivery for COVID-19.

In Kinshasa, Democratic Republic of Congo, as part of transitioning vaccinodrome operations to primary healthcare facilities, efforts were undertaken to integrate COVID-19 vaccination with routine immunization services at two primary health centers. Findings from the project were presented by Carla Toko, MPH (VillageReach), in the presentation

[“Integration of COVID-19 Vaccination with Routine Immunization Services at Two Primary Health Centers in Kinshasa, Democratic Republic of Congo.”](#) Prior to this integration, COVID-19 vaccine coverage was particularly low: <1% between April and November 2021. VillageHealth supported the Ministry of Health through operating four vaccinodromes (high-volume vaccination sites in highly frequented public spaces) in Kinshasa between November 2021 and September 2022. Over 229,000 COVID-19 vaccines were administered between this period through the vaccinodromes, accounting for 33% of all vaccines administered in Kinshasa. Learnings from the experience of running the vaccinodromes were applied to integrate COVID-19 vaccination as part of routine immunization/primary healthcare services and improve routine immunization in terms of human and financial resources. This was achieved through a combination of fixed-site vaccination at two primary healthcare facilities, outreach vaccination sessions, and door-to-door outreach to bring vaccination closer to communities (Figure 4.1). Community health workers played an important role in the outreach components.

Figure 4.1. Project approach to integrating COVID-19 with routine immunization services in Kinshasa

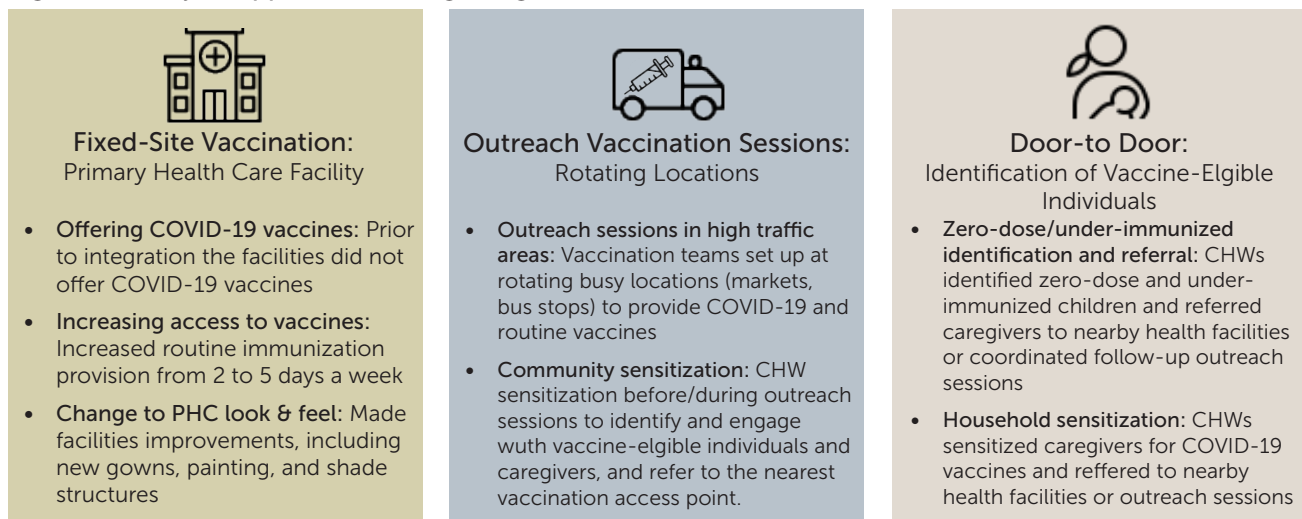


Image from Carla Toko, *Integration of COVID-19 Vaccination with Routine Immunization Services at Two Primary Health Centers in Kinshasa, Democratic Republic of Congo*

Across the two primary healthcare sites, COVID-19 vaccination was able to continue at a similar pace post-integration with routine immunization. Outreach activities and referrals from community health workers remained key contributors to COVID-19 vaccination following integration with routine immunization. The integrated approach also enabled health facilities to identify and vaccinate under-immunized and zero-dose children, with 998 under-immunized and 126 zero-dose children identified and vaccinated through the initiative. Staff also reported high acceptance and adoption of the approach.

Together, the project highlights that integration of COVID-19 and other newer vaccines with known health facilities can promote trust in the immunization services.

In the presentation [“Developing a Behavior-Led Strategy to Integrate COVID-19 Vaccination into Life-Course Vaccination and Healthy Lifestyles.”](#) Stefan Mandić-Rajčević, MD, PhD (JSI Research & Training Institute, Inc.), described how a behaviorally informed approach was applied to integrate COVID-19 vaccination into life-course vaccination. The program

aimed to increase uptake of the COVID-19 vaccine in Serbia, North Macedonia, Moldova, Bosnia, and Herzegovina by increasing demand for vaccination among priority populations, and correcting mis- and disinformation through social and behavior change communication and media-focused strategies. “Behavior integration” was used to design, implement, and evaluate activities. This approach focuses on what people must do to overcome obstacles to a specific behavior by identifying factors affecting the behavior in question and designing interventions that are behavior-led, rather than intervention-driven. The program, which is part of the MOMENTUM Routine Immunization Transformation and Equity project financed by USAID, was conducted in three phases. The first phase collected quantitative data from surveys, published and grey literature, and qualitative data from stakeholder/key informant interviews, and interviews with priority populations. The quantitative and qualitative research identified a number of factors affecting COVID-19 vaccination. These included that COVID-19 is just one of many priorities for people and that, although patients typically listened to their healthcare providers’ advice, their providers were not recommending COVID-19 vaccination and/or

did not provide reliable information. Additionally, patients wrongly believed that they were not eligible for COVID-19 vaccination due to allergies, pregnancy, or a chronic health condition. Healthcare providers also reported a lack of information and training from reliable sources. The quantitative research highlighted that vaccine acceptance was significantly lower among pregnant women and people with chronic diseases. People with chronic diseases were also less likely to believe that the vaccine is safe, less confident in healthcare workers, and had less trust in healthcare provider recommendations.

These insights were used to inform behavior profiles using the freely available [Think | BIG](#) platform for three key groups: pregnant women, patients with chronic diseases, and healthcare workers (Figure 4.2). The behavior profiles were used to propose strategies that address specific barriers and motivators around vaccination and develop an action plan.

**Figure 4.2. Elements of the behavior profile for pregnant women, patients with chronic diseases, and healthcare workers**

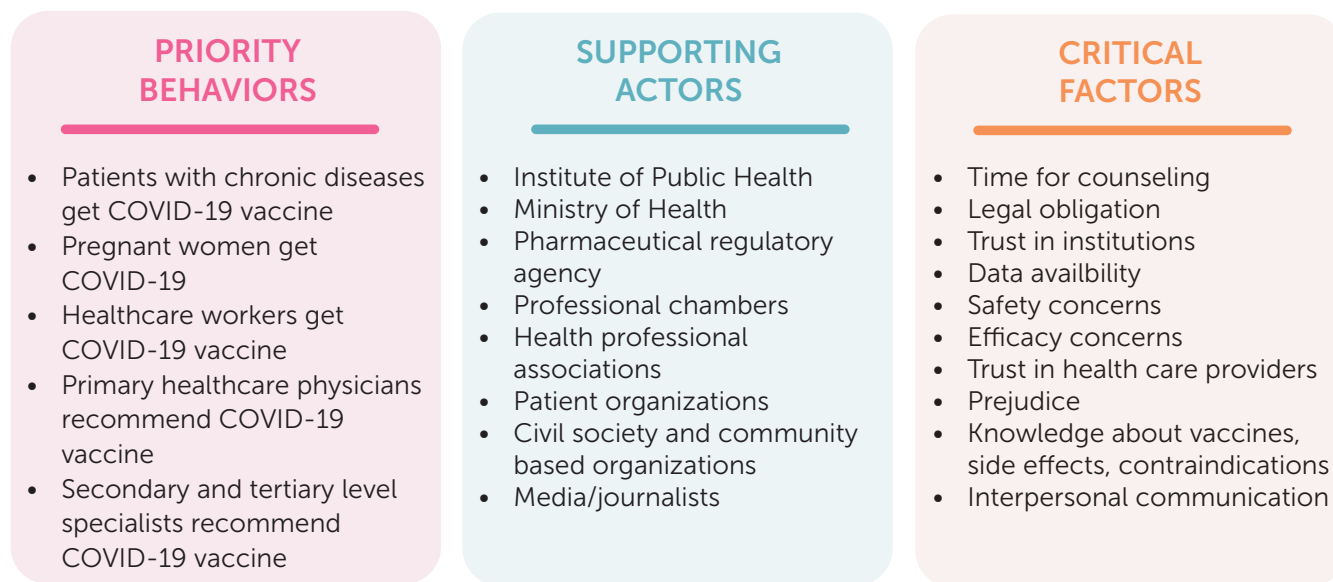


Image from Dr. Stefan Mandić-Rajčević, *Developing a Behavior-Led Strategy to Integrate COVID-19 Vaccination into Life-Course Vaccination and Healthy Lifestyles*

Solutions developed included integrating COVID-19 vaccination into a vaccination package as part of a healthy lifestyle and showing a clear benefit of vaccination for patients with chronic diseases and pregnant women, aligned with patients’ health priorities and healthcare provider priorities. In the third phase, the approach was validated using

participatory workshops with relevant stakeholders, where key concepts were concept tested. A community engagement approach was also developed, along with capacity building and training of local public health practitioners for sustainable vaccine acceptance. WHO, UNICEF, and Gavi have also developed a support package to help countries

integrate COVID-19 vaccination into routine immunization programs. The package includes four key elements:

1. **Considerations for integrating COVID-19 vaccination**, which establishes principles and the overall framework.
2. **An integration mapping tool**, which enables countries to conduct a situational analysis of the current state of COVID-19 integration across the health system to identify current strengths/focus areas.
3. **A readiness assessment checklist**, which supports countries to identify specific technical actions for the integration strategy and its implementation, to address gaps and challenges identified from the mapping exercise.
4. **Implementation support documents**, which provide practical and action-oriented support for integration efforts.

The tools are available on [TechNet-21](#).

## LOOKING AHEAD

VARN2023: *When Communities Lead, Global Immunization Succeeds* built upon the success and learnings of VARN's inaugural conference held in 2022. VARN2023 provided a space for exploration and facilitated the wide dissemination of a growing body of knowledge, practice, and evidence-informed strategies to drive action across the vaccination acceptance, demand, and delivery ecosystem.

Central to VARN's mission was providing a platform for voices from LMICs to be heard and to facilitate knowledge-sharing between researchers, decision-makers, and community members. VARN2023 put a focus on equity, and we heard about the importance of centering equity as the pathway to build vaccine confidence, demand, and uptake for all. It is clear that community-centered solutions will be critical to truly understand community needs and co-create local, people-centered solutions to boost vaccine demand and coverage.

We must also intensify our efforts to recover from the backsliding in routine immunization rates caused by the COVID-19 pandemic, which has left millions of children at risk from preventable diseases. We know this is possible, and at VARN2023 we heard about many innovative and feasible approaches that have been used to reach children and communities with low immunization rates around the world. Moving forward, integrating COVID-19 vaccines with life-course immunizations will be important to strengthen vaccination across the life course and boost demand, uptake, and service delivery for all immunization services.

Looking forward, we are confident that, through the VARN community, we can move closer to these objectives and ensure that everyone, everywhere has access to life-saving vaccinations.



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Dr. Abdul Momin Kazi, *Aga Khan University, Pakistan*  
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Rubina Qasim, *Institute of Nursing, Dow University of Health Sciences, Pakistan*  
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We would also like to thank all of our expert speakers, moderators, presenters, and conference attendees.

**ANNEX 1.  
VARN2023 AGENDA**

# VARN2023: When Communities Lead, Global Immunization Succeeds

DAY 1: JUNE 13, 2023

8:30 - 10:30 AM

Ballroom 1

## KEYNOTE SESSION: Welcome & Keynote Dialogue

Welcoming Remarks and Videos by Ève Dubé, PhD, VARN Chair

Medical Anthropologist, Quebec National Institute of Public Health, Canada

### Keynote Remarks

- **Anuradha Gupta**, MBA, *President of Global Immunization, Sabin Vaccine Institute*  
Immunization: The Equity Imperative

### Keynote Dialogue

**Moderator: Anuradha Gupta**

- **Deepa Risal Pokharel**, MA, *Senior Adviser, Social and Behavior Change/Team Lead Immunization Demand, UNICEF HQ*
- **Sangwe Clovis Nchinjoh**, MD, MPH, MSc, *Founder and Board President, Rural Doctors & Associate at Clinton Health Access Initiative, Cameroon*
- **Saad Omer**, MBBS, PhD, *Director, University of Texas Southwestern Medical Center, USA*
- **Mutua L. Mutinda**, KECN, KRCHN, *Head of Health Promotion in Nairobi City County, Kenya*
- **Glenda Gray**, MBBCh, FC Paeds, DSc, *President, South African Medical Research Council*

10:30 - 11:00 AM

MORNING BREAK

11:00 AM -

12:45 PM

Ballroom 1

## CONCURRENT SESSION I: Recovery & Reimagining Childhood Essential Immunization

### SESSION 1: Research-Based

**Moderator: Stacey Knobler**, MSc, *Vice President, Vaccine Innovation & Global Immunization, Sabin Vaccine Institute*

- **Doris Njomo**, PhD, MA, *Principal Research Scientist, Kenya Medical Research Institute*  
Effect of COVID-19 Pandemic on Routine Childhood Vaccination in Kenya
- **Sara Al-Dahir**, PharmD, PhD, *Clinical Professor, Xavier University of Louisiana*  
The Impact of Coronavirus Pandemic Shutdowns on Immunization Completion in Hadeetha, Anbar, Iraq: A Case-Study of Vaccine Completion in a Recovering Healthcare System
- **Carla Puca**, MPH, MIDI, *Project Officer, Telethon Kids Institute, Australia*  
Moort Vax Waangkiny: Understanding Barriers to Routine Vaccine Uptake Among Aboriginal Children Aged Under 5 Years in the Perth Metropolitan Region
- **Naby Yaya Conté**, MD, MPH, *WHO Consultant, EPI Program Guinea*  
Study of Factors Associated with Zero Dose and Under-Immunized Children in the Health District of Siguiri in Guinea 2022

(Presenting in French)

Ballroom 2

### SESSION 2: Demand Generation-Focused

**Moderator: Sharon Barnhardt**, PhD, MPA, *Director of Research, Center for Social and Behavior Change, Ashoka University*

- **Mofeyisara Omobowale**, PhD, *Lecturer, Institute of Child Health, College of Medicine, University of Ibadan, Nigeria*  
Increasing Demand for Vaccination Through Innovative Childhood Immunization Strategies for Working Mothers in Ibadan: The Role of Social (Relations) Influencers
- **Dumisile Nkosi**, MSc, *Clinical Trial Coordinator, University of Malawi*  
Determinants of Vaccine Coverage and Acceptability of Malaria RTSS Vaccine in Children Aged 6-23 Months in Malawi: A Healthcare Provider's Perspective.
- **Septina Frisca Tobing**, MAAPD, *Quality Assurance Coordinator, Empatika*  
Engaging Private Sector to Increase Routine Childhood Immunization in Indonesia
- **Devi Leena Bose**, MA, *Director, Behavioral Change and Communication, Kantar, India*  
Lessons on Strengthening Vaccine Demand and Uptake by Parents of Children Under Two: Notes from Pilot in Northern India
- **Emily Hoffman**, MD, *Infectious Disease Fellow, New York University*  
Peer Vaccine Educators within Community Healthcare Practices: A Pragmatic, Multi-Site Randomized Controlled Trial of Peer Education to Increase Routine Pediatric Vaccine Uptake in New York

Ballroom 3

### SESSION 3: Practice-Based

**Moderator: Richard Kabanda**, PhD, MPH, MBA, *Acting Commissioner Health Services, Health Promotion, Education, and Health Communication, Ministry of Health, Uganda*

- **Carla Toko**, MPH, *Senior Manager, Advocacy & Communications, VillageReach*  
Integration of COVID-19 Vaccination with Routine Immunization Services at Two Primary Health Centers in Kinshasa, Democratic Republic of Congo
- **Yatender Singh**, MSW, *Program Manager, Project Concern International*  
Rebounding Routine Immunization Coverage Slowed Down by COVID-19 Pandemic: How Community Action Groups (CAGs) Came Forward and Turned the Tide in Uttar Pradesh, India
- **Muhammad Zia Muneer**, MPhil, *Manager, IRD Pakistan*  
Exploring Caregivers' Concerns and Queries Related to Routine Maternal and Childhood Immunizations in Pakistan: Analysis of Provincial Helpline Data from 2019 to 2022
- **Mavuto Thomas**, MPH, *Chief Health Promotion Officer, Ministry of Health, Malawi*  
Reducing the Zero Dose Children in Mtengowanthenega, Dowa District in Malawi
- **Sangwe Clovis Nchinjoh**, MD, MPH, MSc, *Founder and Board President, Rural Doctors & Associate at Clinton Health Access Initiative, Cameroon*  
The Use of Community-Oriented Primary Care (COPC) Model to Generate Vaccine Demand: The Case of a Remote Fishing Community in Cameroon

12:45 - 2:00 PM

LUNCH

#VARN2023



VACCINATION ACCEPTANCE  
RESEARCH NETWORK  
SABIN VACCINE INSTITUTE



2:00 - 3:45 PM **CONCURRENT SESSION II: Vaccinating across the Life-Course: Maximizing the Benefits to All**

**Ballroom 1** **SESSION 1: Research-Based**

**Moderator:** **Susanne Montgomery**, PhD, MPH, MS, *Professor and Dean, Loma Linda University*

- **Laura Skrip**, PhD, *Associate Professor, University of Liberia College of Health Sciences*  
Assessing Social, Demographic, and Clinical Drivers of COVID-19 Vaccination Behavior in Post-Ebola Liberia
- **Porcia Manandhar**, PhD Candidate, *Johns Hopkins University*  
Research on COVID-19 Vaccine Trust, Inequities, and Hesitancy in Nepal
- **Julio Ichazo**, MAppEc, *Project Coordinator, Fundación Bunge y Born*  
First Vaccine Confidence and Access Index in Argentina: Results Comparison from 2019 to 2022
- **Saif ul Hadi**, MA, *Director, Global Access and Behavioral Research, International AIDS Vaccine Initiative*  
How Gamified Behavioral Experiments Can Enable a Deeper Understanding of Say-Do Gaps: Learnings From an HIV Broadly Neutralizing Antibody Acceptability Study in India
- **Stefan Mandić-Rajčević**, MD, PhD, *Social & Behavior Change Specialist, JSI Research & Training Institute, Inc*  
Developing a Behavior-Led Strategy to Integrate COVID-19 Vaccination into Life-Course Vaccination and Healthy Lifestyles

**Ballroom 2** **SESSION 2: Demand Generation-Focused**

**Moderator:** **Chisom Obi-Jeff**, MSc, *Principal/CEO, Brooks Insights*

- **Richard Kabanda**, PhD, MPH, MBA, *Acting Commissioner Health Services, Health Promotion, Education, and Health Communication, Ministry of Health, Uganda*  
Demand Generation as Part of Pandemic Preparedness, Vaccine Access and Delivery, and Decision-Making
- **Rupali Limaye**, PhD, MPH, MA, *Deputy Director, International Vaccine Access Center, Johns Hopkins Bloomberg School of Public Health*  
Vaccine Acceptance and Demand Generation for Future Vaccines
- **Mark Donald C. Reñosa**, RN, MSN, *Supervising Science Research Specialist, Department of Epidemiology and Biostatistics, Research Institute for Tropical Medicine - Department of Health, Philippines*  
Human-Centered Design Bolsters Vaccine Confidence in the Philippines – Results of a Randomized Controlled Trial
- **Kiranmayee Muralidhar**, MBBS, MPH, *Research Physician, Public Health Research Institute of India*  
Knowledge and Acceptability of HPV Vaccination for Young Adult Women in Rural Mysore District, India: A Mixed-Methods Study
- **Heather Lanthorn**, ScD, MPH, *Program Director, Social Science Research Council*  
The Mercury Project: Cost-Effective, Scalable Solutions to Insufficient Demand for Vaccinations Over the Life Course
- **Heidi J. Larson**, PhD, *Professor of Anthropology, Risk and Decision Science, Director, The Vaccine Confidence Project, London School of Hygiene & Tropical Medicine*  
HPV and the Challenges Presented by the Perception and Practice of a "Female Only" Vaccine

**Ballroom 3** **SESSION 3: Practice-Based**

**Moderator:** **Aamer Ikram**, PhD, MCPS, *Chief Executive Officer, National Institute Health of Pakistan*

- **Prem Singh**, MBBS, MD, *Associate Director and Country Lead-Immunization, Jhpiego*  
Building a Sustainable Adolescent Vaccination Program: Lessons From Recent Efforts to Improve the Uptake of Td Vaccination Across Four States of India
- **Marissa Malchione**, MS, *Senior Manager, Research & Analysis, Vaccine Innovation & Global Immunization, Sabin Vaccine Institute*  
Exploring Determinants of Response-Ready Influenza Vaccination Programs in Middle-Income Countries
- **Saransh Sharma**, MSc, *Lead – Behavioral Science, Final Mile Consulting*  
Psycho-Behavioral Segmentation and Targeted Solutions for COVID Vaccine Uptake in LMICs [Burkina Faso, Cote d'Ivoire, Kenya, Pakistan]
- **Angela Chaudhuri**, MPH, *Chief Catalyst, Swasti*  
Last Mile Access to Vaccines: The Case for People-Centered Health Response
- **Adidja Amani**, MD, MPH, MVDD, PhD Candidate, *Global COVID-19 Vaccine Delivery Partnership, WHO Regional Office for Africa*  
Using the Integration Mapping Tool to Support Countries in Assessing Their Level of Integration
- **Marley Jurgensmeyer**, MPH, *Research Associate, International Vaccine Access Center, Johns Hopkins Bloomberg School of Public Health*  
VIEW-hub: Visualizing Data on Vaccine Use and Impact

3:45 - 4:00 PM

**AFTERNOON BREAK**

4:00 - 5:00 PM

**POSTER SESSION 1**

Riverside Foyer

**Childhood Essential Immunization**

Riverside Rooms 5-7

**Life-Course Vaccination**

5:00 - 7:00 PM

**SIDE EVENT**

Ballroom 2

**Vaccination Demand Hub Global Partners Session**

7:00 PM

**ON-SITE RECEPTION**

Siam Yacht Club

8:00 - 10:00 AM

Ballroom 1

### PLENARY II: Inequities Creating Zero-Dose Communities & Gender Gaps in Immunization

**Moderator:** Glenda Gray, MBCh, FC Paeds, DSc, *President, South African Medical Research Council*

#### Part 1: Moderated Fireside Chat

- **Edina Amponsah-Dacosta**, PhD, MPH, *Postdoctoral Research Fellow, Vaccines for Africa Initiative (VACFA), South Africa*
- **Sunitha Chandrasekhar**, PhD, *Vice President Public Health, 3Analytics*
- **Deepa Risal Pokharel**, MA, *Senior Adviser, Social and Behavior Change/Team Lead Immunization Demand, UNICEF HQ*

#### Part 2: Presentation Panel

- **Bhakti Ghatole**, MSAP, *Research Assistant, Sangath, India*  
Structural Inequities in COVID-19 Vaccine Access and Uptake Among Transgender and Disability Communities
- **Chinedu Anthony Iwu**, MBBS, MPH, MBA, *Consultant, Department of Community Medicine, College of Medicine, Imo State University*  
Challenges for Mothers in Rural Areas [of Nigeria] in the Uptake of HPV Vaccines Among Their Children in a Developing Country
- **Claire Thomas**, *Co-Deputy Director, Minority Rights Group International*  
Application of a Diversity Equity and Inclusion Framework to Address the Immunization Zero Dose Challenge in Somalia
- **Manojkumar Choudhary**, PhD, MPS, *Monitoring and Evaluation Specialist, CORE Group Partners Project*  
Value of Deploying Community-Level Mobilizers to Mobilize Communities and Boost or Rebound Vaccination Uptake: CORE Group Partners Project's (CGPP) Experience in Increasing Polio, Routine Immunization, and COVID-19 Vaccination in Hard-to-Reach Areas of Uttar Pradesh, India

10:00 - 10:30 AM

MORNING BREAK

10:30 AM -  
12:30 PM

Ballroom 1

### PLENARY III: Inequities Within Conflict-Settings & Among Marginalized Communities

**Moderator:** Holly Seale, PhD, MPH, *Associate Professor, School of Population Health, University of New South Wales, Australia*

#### Part 1: Moderated Fireside Chat

- **Magid Al-Gunaid**, MBCh, MPA, *Public Health Programs Director, GHD/EMPHNET*
- **Anant Bhan**, MBBS, MHSc, *Mentor, Principal Investigator, Project Lead, Sangath, India*
- **Amaya Gillespie**, *Senior Social and Behaviour Change Scientist, UNICEF Regional Office for Middle East and Northern Africa*

#### Part 2: Presentation Panel

- **Chattiya Nitpolprasert**, MA, *Social and Behavioral Researcher, Adam's Love Global Foundation* COVID-19 Vaccination and People Living with HIV in Thailand
- **Mónica Berger González**, PhD, MPH, *Director, Unit of Medical Anthropology, Universidad del Valle de Guatemala*  
Vaccination in Plurimedical Settings: Understanding Traditional Medicine's Role for Effective Communication Efforts Against COVID-19
- **Patricia Chulamokha**, MA, MPH, *Regional Vaccination Support Officer, International Organization for Migration*  
Understanding and Addressing COVID-19 Vaccine Confidence and Demand in Displaced Person Shelters on the Thai Myanmar Border—A Human-Centered Design Project
- **Mohamed Modber**, RN, CHN, *Community Health Nurse, Sudan*  
Barriers to Vaccination in the Conflict Setting of Sudan

12:30 - 1:30 PM

LUNCH

1:30 - 3:00 PM

### CONCURRENT SESSION III: Complexities of Vaccine Equity

Ballroom 1

#### SESSION 1: Research-Based

**Moderator: Rupali Limaye, PhD, MPH, MA, Deputy Director, International Vaccine Access Center, Johns Hopkins Bloomberg School of Public Health**

- **Lili Nur Indah Sari, MPP, Vaccine Senior Program Officer, Clinton Health Access Initiative**  
COVID-19 Vaccine Acceptance Survey in Indonesia: Community and Provider Perspectives Across Four Provinces
- **Katie Attwell, PhD, Associate Professor, University of Western Australia**  
Vaccination Acceptance Amongst At-Risk and Neglected Groups: Recentring the State to Address the Limitations of Existing Theoretical Frameworks
- **Melanie Abongo Awino, PhD, MPH, Clinical Researcher, Kenyatta National Hospital**  
Prevalence and Challenges of Uptake of COVID-19 Vaccine Among the Key Population in Kenya
- **Sneha Shashidhara, PhD, Senior Research Fellow, Ashoka University**  
COVID-19 Vaccine Hesitancy in Rural India

Ballroom 2

#### SESSION 2: Demand Generation-Focused

**Moderator: Mavuto Thomas, MPH, Chief Health Promotion Officer, Ministry of Health, Malawi**

- **Thiaba Fame, MPH, Risk Communication & Community Engagement Coordinator, International Federation of Red Cross and Red Crescent Societies**  
Using Real-Time Community Insights to Inform and Adapt Plans and Strategies to Improve Vaccine Uptake: Red Cross and Red Crescent Approach and Lessons Learned from Ebola to COVID-19
- **Raveesha Mugali, MD, MPH, Health Specialist - Immunization, UNICEF**  
Rapid Community Assessments are Effective Tools for Identifying, Understanding and Reaching Missed Communities, Especially During the Pandemic
- **Linda Shuro, PhD, Evaluation Coordinator, VillageReach**  
Evaluation of Community-Based Participatory Project to Identify Barriers of Childhood Immunization Uptake and Generate Community-Driven Solutions in Zambézia, Mozambique
- **Viviane Bianco, MSGH, Social and Behavior Change Specialist, UNICEF Regional Office for Europe**  
Implementing a Nation-Wide SMS Reminder to Increase HPV Vaccination in Georgia: Results from a 5-Arm Parallel Randomized Controlled Trial
- **Corrina Moucheraud, ScD, MPH, Associate Professor, University of California Los Angeles**  
HPV Vaccination in Kenya: Factors Associated with Uptake
- **Holly Seale, PhD, MPH, Associate Professor, School of Population Health, University of New South Wales**  
"It's no use saying it in English": A Qualitative Study Exploring the Strategies to Enhance Immunization Uptake Amongst Ethnic Minority Communities in Australia

Ballroom 3

#### SESSION 3: Practice-Based

**Moderator: Robert Kanwagi, MPH, Team Lead, Vaccine Confidence Project**

- **Yulianto Santoso Kurniawan, MD, National COVID-19 Coordinator (Vaccine Access & Health Security Initiative), Australia Indonesia Health Security Partnership**  
Inclusive Vaccination: Narrowing Operational Gaps COVID-19 Vaccinations for People with Disability
- **Djeneba Coulibaly-Traore, PhD, MPH, Country Project Director, PATH**  
Improving Vaccine Uptake in the Democratic Republic of Congo: Engagement of Non-Traditional Partners to Improve COVID-19 and Routine Immunization
- **Sabitri Bhatta, MA, Vaccination Program Support Specialist, Abt Associates, Inc**  
Engaging Community Health Workers, Elected Leaders, and Other Influential Community Members in Communication and Mobilization Activities to Increase COVID-19 Vaccine Acceptance in Municipalities with Low Vaccination Coverage [in Nepal].
- **Isaac Olufadewa, MBBS, MHS, Founder, Slum and Rural Health Initiative**  
Young People as Change Agents in Vaccination Programs: Lessons from the 'Youth for COVAX' Project in 2 African Countries [Nigeria and Ethiopia]
- **Doreen Tuhebwe, PhD Candidate, MPH, Research Fellow, Makerere School of Public Health**  
Improving HPV Vaccine Acceptance Through Peer-to-peer Education Among Adolescent Girls in the Urban Poor Settings of Kisenyi, Kampala, Uganda

3:00 - 3:30 PM

### AFTERNOON BREAK

3:30 - 4:30 PM

### POSTER SESSION 2

Riverside Rooms 5-7

#### Demand Generation

Riverside Foyer

#### Social Listening and Combating Misinformation

4:30 - 6:30 PM

### SIDE EVENTS

Ballroom 2

#### Skills Building Session on Applied Behavioral Science for Health Equity Facilitated by UNICEF

Ballroom 3

#### How Understanding Behavior Can Help Us Improve Immunization Services Experiences Facilitation/Moderation: The Vaccination Demand Hub Facilitated by JSI

6:30 - 8:30 PM

Ballroom 1

## **EVENING EVENT: Sabin Vaccine Institute's Social and Behavioral Research Grants Program: Video Narrative Project Screening**

### **Welcoming Remarks:**

**Theresa Sommers**, PhD, MPH, *Senior Manager of Research, Vaccine Acceptance & Demand, Sabin Vaccine Institute*  
**Nick Boehman**, Associate, *Vaccine Acceptance & Demand, Sabin Vaccine Institute*

### **Screening:**

- *Setting the Scene: Opportunity for Positive Change*
- *Methodology, Data Gathering, & Analysis*

### **Panel Discussion**

- **Zephon Lister**, PhD, MS, MA, LMFT, *Co-Principal Investigator, Loma Linda University*
- **Sneha Shashidhara**, PhD, *Senior Research Fellow, Ashoka University*
- **Sharin D'Souza**, MA, *Assistant Research Coordinator, Sangath*

### **Screening:**

- *Key Findings*
- *The Way Forward: When Communities Lead, Vaccination Succeeds*

### **Panel Discussion**

- **Ashmita Gupta**, PhD, *Co-Principal Investigator, Asian Development Research Institute*
- **Dr. Chizoba Wonodi**, DrPH, *Associate Scientist, Johns Hopkins Bloomberg School of Public Health; and Convener, Women Advocates for Vaccine Access*
- **Porcia Manandhar**, PhD Candidate, *Johns Hopkins University*

*Refreshments provided*

### 8:30 - 10:00 AM **PLENARY IV: Open Forum Discussion**

Ballroom 1

#### **Challenges of Online & Offline Circulating Misinformation Relating to Zero-Dose Children and Vaccine Introduction**

**Moderator:** Angus Thomson, PhD, *Principal, Irimi Company*

**Panelists:**

- **Adidja Amani**, MD, MPH, MVDDc, PhD Candidate, *Global COVID-19 Vaccine Delivery Partnership, WHO Regional Office for Africa*
- **Ana Bottallo**, PhD, *Journalist, Folha de S. Paulo, Brazil*
- **Julie Leask**, PhD, MPH, *Social Scientist and Professor, Faculty of Medicine and Health, University of Sydney*
- **Farah Naz Qamar**, MD, MSc, *Associate Professor, Aga Khan University*

### 10:00 - 10:30 AM

### MORNING BREAK

### 10:30 AM - 12:30 PM **CONCURRENT SESSION IV: Tools and Approaches to Boost Vaccine Confidence**

12:30 PM

#### **SESSION 1: Research-Based**

**Moderator:** Kate Hopkins, PhD, MPH, *Director of Research, Vaccine Acceptance and Demand, Sabin Vaccine Institute*

Ballroom 1

- **Emily Miller**, MGH, *Education and Training Coordinator, International Vaccine Access Center at Johns Hopkins Bloomberg School of Public Health*  
Evaluation of a Training Resource to Strengthen Healthcare Worker Capacity in Combating Vaccine Misinformation
- **John Cook**, PhD, *Senior Research Fellow, University of Melbourne*; **Jacquelyn Ssanyu**, MPH, *Research Coordinator, Makerere University*; **Doris Njomo**, PhD, MA, *Principal Research Scientist, Kenya Medical Research Institute*; **Rubina Qasim**, RN/IRN, MScN, *Acting Principal, Dow Institute of Nursing & Midwifery, Dow University of Health Sciences, Karachi, Pakistan*  
Co-Designing a Mobile-Based Game to Improve Misinformation Resistance and Vaccine Knowledge in East Africa and South Asia
- **Suman Pant**, MBBS, MPH-GH, *Research Officer, Nepal Health Research Council*; **Tahir Yousafzai**, PhD, MPH, *Assistant Professor, Department of Pediatrics and Child Health, Aga Khan University*  
How Microbe Literacy Workshops are Conducted and Why We Think They Work

Ballroom 2

#### **SESSION 2: Making it Personal: Using Motivational Interviewing to Increase Pandemic Vaccine and Routine Immunization Uptake Across Four Countries**

**Moderator:** Nessa Ryan, PhD, MPH, *Global Health Epidemiology Fellow, Global Immunization Division, US Centers for Disease Control and Prevention*

- **Arnaud Gagneur**, MD, PhD, *Professor, Université de Sherbrooke*  
Training HCW in an Evidence-Based Immunization Promotion Strategy that Integrates MI in Quebec
- **Julie Leask**, PhD, MPH, *Social Scientist and Professor, Faculty of Medicine and Health, University of Sydney*  
The Sharing Knowledge About Immunization (SKAI) Approach Integrating MI in Australia
- **Raluca Zaharia**, *Social and Behavior Change Specialist, UNICEF Romania*  
Using Motivational Interviewing to Encourage Timely Completion of Vaccinations and Improved Interpersonal Communication Between HCWs and Caregivers in Romania
- **Hinda Omar**, *Health Educator Specialist, Minnesota Department of Health, USA*  
& **Nessa Ryan**, PhD, MPH, *Global Health Epidemiology Fellow, Global Immunization Division, US Centers for Disease Control and Prevention*  
Modules to Build Skills in Effective Peer-to-Peer Communication About Vaccines in Somali Diaspora Communities

**Breakout Groups: Gain Practical Experience Using a Role-playing Motivational Interviewing Exercise**

Ballroom 3

#### **SESSION 3: Skills Building Workshop on Human-Centered Design Approach to Increase Vaccine Demand**

**Moderator:** UNICEF/Nucleus

During this interactive skills-building session, practical tools will be introduced to analyze complex challenges and foster collaborative problem-solving through various systems mapping methods. Participants will engage in group activities using example scenarios to enhance community understanding and engagement with primary health services.

### 12:30 - 2:00 PM

### LUNCH BREAK



### 2:00 - 3:30 PM **CONCURRENT SESSION V: Social Listening and Understanding Community Information Needs**

#### Ballroom 1 **SESSION 1: Bridging Research to Practice**

**Moderator:** *Kate Hopkins, PhD, MPH, Director of Research, Vaccine Acceptance and Demand, Sabin Vaccine Institute*

- **Chrys Promesse Kaniki, MD, PhD Candidate, Senior Technical Officer for Strategic Program and Bingwa Initiative Coordinator, Africa Centers for Disease Control and Prevention**  
Mind the Gap: Bridging Disparities in Vaccine Acceptance Across Different Communities
- **Susanne Montgomery, PhD, MPH, MS, Professor and Dean, Loma Linda University**  
Understanding COVID-19 Vaccine Acceptance Among Healthcare Workers: Implications for Community
- **Valentina Bollenback, Regional Program Director - Asia, MAGENTA**  
Countering Misinformation in South Asia Amid the COVID-19 Pandemic [Afghanistan, Bangladesh, India, Pakistan, Sri Lanka]
- **Lucilla Blankenberg, CEO, Community Media Trust**  
Zwakala National Youth Social Media Campaign to Mitigate Rumors Using Humor [in South Africa]
- **Charles N. Kakaire, MPH, Social and Behavior Change Specialist, Immunization, UNICEF**  
Social Listening and Anthropological Insights into Ebola Virus Disease and Vaccination in Uganda: A Mixed Methods Study
- **Joël Fabrice Konan Djaha, MPH, Qualitative Research Assistant, Université Félix Houphouët-Boigny/Programme PAC-CI**  
Vaccination Against COVID-19 in Côte d'Ivoire: Responding to Missed Opportunities to Promote to Virtual Facebook Communities

(Presenting in French)

#### Ballroom 2 **SESSION 2: Demand Generation-Focused**

**Moderator:** *Chelsey Lepage, MA, Director of Programs, Irimi*

- **Margie Danchin, MBBS, FRACP, PhD, Consultant Paediatrician, Murdoch Children's Research Institute**  
Vaccine Champions Program in Viet Nam and Fiji
- **Raheel Allana, MSBE, BDS, Research Specialist, Aga Khan University**  
Mobile Phone Caller Tunes as an Innovative Strategy to Mitigate Pandemic Spread and to Promote Vaccination Uptake in Pakistan Digital Health Strategies
- **Chizoba Wonodi, DrPH, Associate Scientist, Johns Hopkins Bloomberg School of Public Health; and Convener, Women Advocates for Vaccine Access**  
Targeted Messaging for COVID-19 Vaccine Acceptance (TM-COVAC)
- **Daniela Da'Costa, MSc, Technical Advisor, Institute of Inclusive Health, and Research Guest, Unit of Medical Anthropology, Universidad del Valle de Guatemala**  
Developing a Transdisciplinary Approach to Intercultural Team Building for Addressing Vaccine Hesitancy Uptake in Maya Communities of Guatemala
- **Corrina Moucheraud, ScD, MPH, Associate Professor, University of California Los Angeles**  
COVID-19 Vaccine Information, Misinformation and Vaccine Uptake in Malawi
- **Rabab Batool, PhD Candidate, Senior Instructor, Aga Khan University**  
Typhoid Conjugate Vaccine Acceptance Among Parents of Age-Eligible Children in a Typhoid Outbreak Setting of Lyari Town Karachi, Pakistan

#### Ballroom 3

#### **SESSION 3: INTERACTIVE SESSION – How to Tell Your Immunization Story to a Journalist and Why?**

**Moderator:** *Nadia Peimbert-Rappaport, Senior Manager, Stakeholder Partnerships, Vaccine Acceptance & Demand, Sabin Vaccine Institute*

- **Ana Bottallo, PhD, Science Journalist and media mentor, Folha de S. Paulo, Brazil**
- **Patrick Kahondwa, Science Journalist, Chief Editor of sciencemediarc.net and reporter for SciDev & VaccinesWork**
- **Jaya Shreedhar, MD, Media Trainer and Journalist, Internews**

This interactive session with seasoned media trainers and health and science journalists from Africa, Asia and the Americas will provide participants with practical guidance and approaches to engaging with the media on vaccination acceptance, demand and delivery issues, using storytelling and strategic communications tactics. The session will cover:

- Understanding why the media is important to build and sustain immunization
- Addressing the challenges journalists face in covering vaccines and immunization
- Practical approaches and resources for effective media outreach and delivering compelling messages

3:30- 4:00 PM

**AFTERNOON BREAK**

4:00- 5:00 PM

## CLOSING PLENARY: Connecting the Vaccination Ecosystem

Ballroom 1

### VARN2023 Poster Session Awards

- **Ève Dubé**, PhD, *Medical Anthropologist, Quebec National Institute of Public Health, Canada*  
VARN2023 Poster Session Awards

### Closing Remarks

- **Stacey Knobler**, MSc, *Vice President, Vaccine Innovation & Global Immunization, Sabin Vaccine Institute*
- **Deepa Risal Pokharel**, MA, *Senior Adviser, Social and Behavior Change/Team Lead Immunization Demand, UNICEF HQ*

**ANNEX 2.**  
**VARN2023 SPEAKER BIOS**

**Sara Al-Dahir, PharmD, PhD, MPH**, has completed her BSc and MPH from Tulane University, PharmD from Xavier University and PhD in International Health from Johns Hopkins University. She has published on vaccine access and equity, Infectious Disease, Critical Care, and International Health, specifically vaccine uptake among children in conflict areas. Dr. Al-Dahir is focused on the issues of vaccine equity and the disproportionate impact of infectious syndromes on marginalized communities and individuals from disadvantaged backgrounds. Dr. Al-Dahir conducts research and serves as a consultant for UNICEF (United Nations Children's Fund). She has presented nationally and internationally on issues related to vaccine equity. She is currently the lead investigator on multiple NIH grants on health disparities and vaccine equity and has received funding from Pfizer© and Roche-Genentech©. Dr. Al-Dahir has published in the Lancet Global, BMJ Global, BMJ Open, American Journal of Public Health, AJPE and several pharmacy, infectious diseases and health disparities journals.

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**Raheel Allana, MSBE**, is a highly dedicated and accomplished early-stage public health researcher. He has a background in dental surgery and a Master's Degree in Epidemiology & Bio-statistics, and has been actively involved in public health research since 2019. He has worked on research studies focused on vaccine preventable diseases and digital health, and has played important roles in quantitative data analyses, manuscript writing and proposal submission. Currently, Raheel is part of a quantitative team analyzing data for a study on community-based RSV mortality in Karachi, Pakistan, which is funded through the Bill and Melinda Gates Foundation and is also looking at a quantitative part of a project titled "Profiling of Social Mixing Patterns in Pakistan," which is funded through RO1 – NIH. In addition to his research work, he has published 13 articles indexed in PubMed, with an h-index of 7. Raheel is also involved in editorial work, serving as an Academic editor for PLOS One journal and reviewing for multiple international indexed journals including BMC Oral Health, Journal of Epidemiology & Global Health, JMIR, etc. Overall, he has a strong foundation of skills and experiences in public health research and is actively engaged in contributing to the field.

**Edina Amponsah-Dacosta, PhD, MPH**, is a Postdoctoral Research Fellow at VACFA. She is a trained Medical Virologist, and obtained her PhD in Medical Virology from the Sefako Makgatho Health Sciences University in 2017. Her postgraduate research was in the field of viral hepatitis, with a particular focus on the impact of universal hepatitis B vaccination in South Africa, and the molecular genetics of the hepatitis B virus. After her PhD, Edina took up a Master's Degree in Public Health (MPH) at the University of Cape Town, specializing in Health Policy and Systems. Her MPH research focus is on the interaction between national immunization programs and the broader health systems in which they are embedded. In 2018, Edina joined VACFA as an avenue to marry her infectious diseases and public health backgrounds in pursuing her research goal of reducing the burden of vaccine-preventable diseases across the African region. She is currently working on a research project aimed at designing alternative, optimal vaccination strategies against pertussis. For this purpose, her research will look to characterize the immune response following homologous and heterologous prime-boost vaccination strategies against pertussis in South African children and adolescents. During her tenure as a fellow, Edina is also involved in conducting systematic reviews, co-supervising postgraduate students and co-organizing the annual African Vaccinology Course hosted by VACFA. She works closely with her principle investigator, Dr Benjamin Kagina, as well as with Dr Rudzani Muloiwa and Prof Gregory Hussey.

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**Katie Attwell, PhD**, is Associate Professor of political science and public policy scholar at the University of Western Australia, where she leads VaxPolLab. She is an Honorary Fellow of the Wesfarmers Centre of Vaccines and Infectious Diseases at Telethon Kids Institute and the current Chair of the Collaboration on Social Science and Immunisation (COSSI), a national network of vaccination social science researchers. Katie is a global expert in vaccine hesitancy and vaccination policies for childhood and COVID-19. She has engaged in community, policy, and behavioral research in vaccination uptake since 2014, the year of her ground-breaking and internationally recognized "I Immunise" campaign, which drew on behavioral insights to address alternative lifestyle-

based vaccine hesitancy. Her recent Discovery Early Career Researcher Award (2019-2022), a three-year research fellowship funded by the Australian Research Council of the Australian Government, explored mandatory childhood vaccination policies in Australia, Italy, France and California. Katie led the interdisciplinary West Australian project "Coronavax: Preparing Community and Government," which engaged in community and government research for the COVID-19 vaccine roll-out, funded by Wesfarmers and the Health Department of Western Australia. From 2023, Katie has led MandEval, a mixed methods and multi-country study of the implementation and impact of COVID-19 vaccine mandates.

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**Melanie Abongo Awino, PhD, MPH**, is the Project Manager and Research Officer for SSI study at Kenyatta National Hospital and a passionate Researcher. Over 6 years she has conducted research and published five articles as a primary author and two as a secondary author. She has just enrolled for a PhD-PH program at the Kenya Medical Research Institute. Melanie continues to progress in the field of research with an aim of even higher success. Melanie developed interest in research as a young researcher and has had revolutionary rounds of mentorship through the last eight years. She has gained expertise in writing award-winning proposals, project proposal reports, case summaries and series and project management skills.

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**Sharon Barnhardt, PhD, MPA**, is the Director – Research at the Centre for Social and Behavioural Change at Ashoka University. Her research focuses on issues of urban development and rural health in India, through the use of natural and randomized evaluations. She is currently conducting an evaluation to improve the sustainability of community sanitation in urban Odisha and estimating the impact of selling iron-fortified iodized salt on anemia in women, men, and children in rural Bihar. Her earlier research studied the impact of government housing programs on economic mobility, inter-religious attitudes, and social networks. Her research is funded by the Bill & Melinda Gates Foundation, Zie, the UK's Foreign, Commonwealth and Development Office (formerly DFID), and the US National Institutes of Health. Prior to CESS, she was an Assistant Professor at the Indian Institute of Management Ahmedabad.

Sharon is also an affiliate of the Institute for the Study of Labor (IZA). Sharon earned her PhD from Harvard University and also holds an MPA from Princeton University.

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**Rabab Batool, MS**, is a researcher, Epidemiologist, and Ph.D. candidate (University of Tampere) working with the Department of Pediatrics and Child Health at the Aga Khan University, Karachi, Pakistan. Her research focuses on Typhoid Conjugate Vaccine, Typhoid fever, strategies to increase vaccination coverage, maternal, newborn and child health, infectious diseases, and AMR.

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**Anant Bhan, MBBS, MHSc**, Mentor and Principal Investigator, Sangath, is a researcher in global health, health policy, bioethics and mental health with over 20 years of experience. Trained as a medical doctor from India and in bioethics from the University of Toronto, Anant currently leads/co-leads several research projects in the areas of global mental health, health equity, participatory research and community engagement. Anant also serves as a mentor for the Bhopal Hub of Sangath, a public health research organization. In addition, Anant serves in several institutional ethics committees and teaches bioethics in Yenepoya University (Fogarty International Centre), Manipal Academy of Higher Education, and at some of the All India Institutes of Medical Sciences. Anant is also very active in engaging with news media and social media.

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**Sabitri Bhatta, MA**, is a registered nurse and has knowledge of Demography and Gerontology. She has a career spanning about six years in the development field and three years in the academic area. She has held entry level to mid-level positions. Also, her Master's Degree in Population and Social Gerontology has exposed her to concepts of social security systems, theories of aging and advances in the social aging sector. In addition, Sabitri is well versed in substantive as well as analytical demographical tools that have supported her in making research inferences in broader aspects of population. She was engaged with esteemed organizations such as Save the Children, Care Nepal and Abt Associates, Inc. in areas of maternal, neonatal, child health, vaccination, and emergency response. The field level exposure during

her professional journey has established her as an advocate for mainstreaming of need from hard-to-reach areas and people living with disabilities. This has shaped her interests in managing projects relating to emergencies, child, neonatal and maternal health. Sabitri strives to manage sustainable programs for delivering tangible program results. She is establishing herself as a researcher in similar fields and has presented her papers in national as well as international conferences.

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**Viviane Bianco, MSGH, MBA**, is a Social and Behaviour Change Specialist with the UNICEF Regional Office for Europe and Central. She provides technical advice, guidance, and support to 22 country offices in the region to help them increase vaccine demand and uptake. Her work on immunization focuses on supporting countries to conduct behavioral insights research and conduct social listening to identify the drivers and barriers to vaccine uptake and apply the insights to develop evidence-based solutions to increase the demand for vaccines. She is a national of Brazil and holds a bachelor's degree in Social communication, an MBA in Marketing, and a Master of Science in Global Health.

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**Lucilla Blankenberg** spearheads Community Media Trust's (CMT) creative campaigns, overseeing all aspects of development, production, post-production, and delivery of products. She is also responsible for good governance at CMT. Her accolades include a SAFTA (South African Film and Television Award) for best directing and best TV Comedy, alongside Laddie Bosch, for CMT's TV show *The Riviera*, and an award for Best TV Series at the Zanzibar International Film Festival in 2018 for CMT's drama series *JAB*, which she directed, produced and created. A *Country For My Daughter*, which Lucilla directed, received an award for Best Documentary at the 4th Gender and Media Awards in 2010. She has also worked as a director, editor and/or producer on several documentaries and films. Lucilla headed up CMT's involvement in the highly successful COVID-19 awareness and vaccine confidence campaign, *Zwakala*. She also oversaw the writing of the second season of *The Riviera* in 2022.

**Nick Boehman**, is an Associate with Sabin's Vaccine Acceptance & Demand Initiative. Nick provides programmatic support and assists with communication and research needs across the VAD team. Prior to joining Sabin, Nick worked as a Program Associate with CGFNS International, a global health NGO, in a role that was highly research and reporting focused. Prior to that, he interned with the International Campaign to Abolish Nuclear Weapons (ICAN) in Austria. He earned his BA in International Relations from Saint Joseph's University in Philadelphia.

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**Valentina Bollenback**, is MAGENTA's Asia Regional Programme Director. Over the last decade, she has designed, developed and disseminated communications and SBC programs with Save the Children, UNICEF, the UK Government and MAGENTA with a particular focus on development and humanitarian contexts. As a strategic communications and behavior change campaigns specialist, Valentina's work has ranged from supporting the Tunisian Ministry of Health throughout the COVID-19 pandemic to increase vaccine uptake, supporting the former Government of Afghanistan to counter Taliban disinformation and promoting healthy practices in East Africa. She is based in Amman, Jordan.

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**Devi Leena Bose, MA**, leads Behavioural Change and Communications for India and South Asia at Kantar Public. She has worked across various public and non-profit sectors to understand behavioral challenges and to provide behavioral solutions for a wide variety of public health issues. Before joining Kantar, Devi Leena was working with IAVI where she led the design, advocacy and on-ground implementation of strategies that promote communicative justice and enable community trust and ownership in public health programs and prevention research. She leveraged her interdisciplinary training in human-centered design, participatory research and public policy to design research to understand the complexities of human behavior across varying contexts, and develop social and behavior change communication strategies that support the mainstreaming and equitable engagement of marginalized communities in healthcare.

**Ana Bottallo, PhD**, is a biologist with an M.Sc. in Zoology from the University of Sao Paulo, Brazil, and a combined Ph.D. in Zoology and Paleontology from the Muséum National d'Histoire Naturelle in Paris. Based in São Paulo, Brazil, Ana has reported on science and health for Folha de S.Paulo since 2020. During this time, she has published extensively on environmental, scientific, and health topics, especially during the coverage of the COVID-19 pandemic, with over 600 articles published so far. Her five most-read articles have reached nearly half a million page views each and focused on providing the public with scientific information about COVID-19 vaccines and the importance of following health measures. In 2022, Ana was recognized with the 1st InfoVacina Journalism Award in the "Explanatory and Service" category for her story about how mRNA technology could benefit the development of vaccines against neglected diseases. She was also a finalist for the "Most Admired Science, Well-Being, and Health Reporters of Brazil" award from the Albert Einstein Israelite Hospital. Ana's coverage of the COVID-19 pandemic received an honorable mention from the Communications Portal in 2021.

**Sunitha Chandrasekhar Srinivas, PhD**, is committed to community-led health systems strengthening. She has international experience in community co-creation and service leadership for health promotion. Research, advocacy and teaching remain a foundational aspect in her career. Her work spans nearly three decades and has always been aligned with health objectives. She has led and participated in projects funded by the World Health Organization, the World Bank, the Bill and Melinda Gates Foundation, and, recently, JHPIEGO (John Hopkins affiliate) through USAID-Reaching Impact, Saturation, and Epidemic Control (RISE). Her research interests include maternal and child health, disease prevention and health promotion for non-communicable diseases, Antimicrobial Stewardship, HIV/AIDS, TB, pandemic preparedness and post vaccination safety surveillance. Sunitha is now focused on international collaboration for zero dose vaccination.

**Angela Chaudhuri, MPH**, has over 23 years of experience in public health in India and internationally. She is the Chief Catalyst at Swasti, the "health catalyst"

under the Catalyst Group of organizations headquartered in Bengaluru, India. From evaluation of several countries' national HIV programs to research, capacity building and knowledge management, Angela works closely with governments, civil society, community groups and corporations. She has led teams to help countries raise close to a billion dollars towards HIV, TB, Malaria, Health Systems Strengthening and Community Systems Strengthening, and she continues to support governments with poor health outcomes, to help strengthen their systems of information, human resource management, program design and planning. She has globally co-designed interventions and helped raise more than \$1.3 billion USD for TB, HIV, Malaria for 12 countries. Through COVID Action Collab, she led her team to reach 15 million invisible marginalized people with COVID-19 vaccination. She has a Bachelor's Degree in Dental Sciences (Bangalore University), Master's Degree in Public Health (Boston University) and PG Diploma in Journalism (London School). She has lived in five countries and worked in over 26 countries and most of India. She currently serves on the board of the Catalyst Group of Institutions, IDEX Global Accelerator, AIDS Society of Asia and Pacific. She has previously served on Partnership of Maternal Newborn and Child Health (PMNCH), a global alliance hosted by the World Health Organization. She is a part of MIT Solve Leadership group and in the Social Participation Technical Network hosted by the WHO. She has been with Swasti since its inception in 2004 and is responsible for its growth and trajectory. Swasti (Wellbeing in Sanskrit) is a Global South civil society organization that is committed to adding 100 million 'well'thy days for vulnerable communities. Swasti works to elevate the discourse from health to well-being and join the missing pieces in wellness together (social, behavioral, management and technology) around the technical/ medical aspects, with a strong focus on prevention and promotion. Swasti's multidisciplinary teams do two things well: 1. Demonstrate scalable, cost effective and sustainable models in partnership with communities 2. Support partners to reach impact.

**Manojkumar Choudhary, PhD, MPS**, is a trained demographer and PhD. in Public health, having 24 years of work experience in community health programs

in India. He has worked both at the grassroots as well as managerial levels for various international organizations. He is a published author experienced in community-based social and health research and has applied various behavioral research tools and techniques for developing program communication strategies. Since 2011, he has been associated with the CORE Group Polio Project in India as the Monitoring and Evaluation specialist.

**Patricka Chulamokha, MA, MPH**, is a social scientist and public health specialist, with thematic background in humanitarian assistance, health systems, social protection, political science and health in limited resource setting and conflict areas. Prior to the pandemic she conducted a digital ethnographic study on vaccine acceptance and hesitancy among Thai online discussion platforms. While working as technical officer for the emergency response at WHO Thailand, Patricka initiated an infodemic management response team consisting of governmental counterparts and other UN agencies to apply big data analytics and social listening tools for the design of national COVID-19 vaccine communications strategies. A fellow of Social Science in Humanitarian Action Programme, she is currently working as Regional Vaccination Support Office for International Organization for Migration, Asia Pacific Regional Office, and is a technical lead for the Vaccine Demand and Confidence initiative that works closely with the refugee population, and applies rapid qualitative inquiries and Human-centered approach to public health intervention design. Her current area of focus under this initiative includes Refugees fleeing from the conflict from Myanmar that resides in temporary shelters along the border of Thailand-Myanmar, Ukrainian citizens fleeing from War in Chisinau, Moldova, and Poland.

**Naby Yaya Conté, MD, MPH**, is a medical doctor and holds a Master's Degree in Epidemiology of Intervention and Disease Control and an inter-university diploma in vaccinology. He is currently a consultant for the World Health Organization in Guinea within the framework of the catch-up of zero-dose and under-immunized children deployed in the health district of Siguiro in Guinea. As part of his master's thesis, he completed internships at the clinical research unit in Nanoro and at

the MURAZ Centre in Burkina Faso in 2022. In 2020, he was an epidemiologist in the fight against coronavirus disease in Guinea. From 2017 to 2020, he was a study officer in the monitoring, evaluation and research section of the expanded programme on immunisation in Guinea. From 2013 to 2016, he was an immersion trainee at the Maferinyah Rural Health Training and Research Centre in Guinea in the field of primary health care. He now has eight years of experience in practical immunization activities.

**John Cook, PhD**, is a Senior Research Fellow with the Melbourne Centre for Behaviour Change at the University of Melbourne, researching how to use critical thinking to counter misinformation. He obtained his PhD in Cognitive Science with the University of Western Australia, researching inoculation strategies to neutralize science misinformation. In 2007, he founded Skeptical Science, a website that won the 2011 Australia Museum Eureka Prize for the Advancement of Climate Change Knowledge. In 2013, he published an award-winning paper quantifying the 97% scientific consensus on climate change which was highlighted by President Obama and UK Prime Minister David Cameron. In 2015, at the University of Queensland, he led the development of a Massive Open Online Course on climate science denial that has received more than 40,000 enrollments from over 185 countries. He co-authored the college textbooks *Climate Change: Examining the Facts* and *Climate Change Science: A Modern Synthesis*, as well as the book *Climate Change Denial: Heads in the Sand*. He wrote and drew the cartoons in the book *Cranky Uncle vs. Climate Change*, followed by development of the *Cranky Uncle* game, which combines critical thinking, cartoons, and gamification to build resilience against misinformation. He currently works with organizations such as Facebook, NASA, the Sabin Vaccine Institute, and UNICEF to develop evidence-based responses to misinformation.

**Djeneba Coulibaly-Traore, PhD, MPH**, is the Project Director of a USAID funded project Momentum for Routine Immunization Transformation and Equity (M-RITE). She has more than 20 years of experience in the Public Health field, with a PhD in Sociology from the University of Cote d'Ivoire and a MPH in Public Health

from University of Berkeley. In her role as the Project Director, Dr. Coulibaly-Traore oversees project activities in the COVID-19 vaccination program, routine immunization, data system strengthening, and demand generation and communication. Her previous work includes projects in immunization, global health security, HIV/AIDS, TB, and Malaria across a range of organizations (civil society organizations, government agencies, and donors including CDC, USAID, Institut de Recherche pour le Développement, and UNICEF). She has served in leadership roles as the Chief of Party of the CRS Guinea country program, for the Global Fund, and for the National Malaria Control Program. In her position, Dr. Coulibaly-Traore has provided leadership and supervision to operational components, mitigated financial and program risks, built institutional and partners' capacities, and contributed to the implementation of complex public health and health systems programs.

**Margie Danchin, MBBS, PhD, FRACP**, is Group Leader, Vaccine Uptake, Murdoch Children's Research Institute. She is also Paediatrician, Department of General Medicine, The Royal Children's Hospital, Professor and Clinician Scientist Fellow, Department of Paediatrics, The University of Melbourne, and Director Clinician Scientist pathways, The University of Melbourne. Margie is a consultant pediatrician at the Royal Children's Hospital and Clinician Scientist, University of Melbourne, and Murdoch Children's Research Institute (MCRI). As leader of the Vaccine Uptake Group, MCRI, her research focuses on vaccine confidence and uptake, particularly among high risk-groups and in low- and middle-income countries, and on effective risk communication. In Australia, she is chair of the Social Science Advisory Board and a member of the Scientific Advisory Committee, National Centre for Immunisation Research and Surveillance (NCIRS) and is an expert advisor to the Australian Technical Advisory Group on Immunisation (ATAGI). She is committed to efforts to improve vaccine confidence and uptake in the Asia Pacific Region, and works closely with DFAT to provide technical immunization support for the region. She is Deputy chair, Australian Regional Immunisation Alliance (ARIA) and is on the Australian Expert Technical Assistance Program for Regional COVID-19 Vaccine Access:

Policy, Planning and Implementation (AETAP-PPI) Advisory Board. She is on the steering committee for the MCRI COVID Governance Committee and Melbourne Children's Global Health.

**Joël Fabrice Djaha, MPH**, is a doctoral student in sociology at the Université Félix Houphouët-Boigny in Abidjan, Côte d'Ivoire, and is also a qualitative research assistant at the PAC-CI Program's social sciences division. He conducts research on infox and polemics about COVID-19 in Facebook virtual communities at the Groupe de Recherches en Socio-Anthropologie appliquées à la santé et au Vieillessement. Joël is particularly interested in themes related to health, politics in Ivorian cyberspace, methodological approaches and ethical considerations related to virtual community studies. An infodemic manager, ICT and photography enthusiast, Joël is interested in various forms of knowledge transfer including video and policy briefs.

**Eve Dubé, PhD**, is a medical anthropologist. She is affiliated with Quebec National Institute of Public Health in Quebec, Canada. She is a research scientist at the Research Center of the CHU-Québec and an invited professor in the Department of Anthropology at Laval University. Her research program focuses on the sociocultural determinants of vaccination. She is the lead investigator of the Social Sciences and Humanities Network of the Canadian Immunization Research Network. She is interested in how to enhance vaccine acceptance and uptake and she is leading different projects around this issue. She sits on a number of committees as an expert on vaccine acceptance and hesitancy. She was a member of the World Health Organization working group on vaccine hesitancy.

**Thiaba Fame, MPH**, is a Community Engagement and Accountability (CEA) specialist with a demonstrated history of implementing projects in challenging environments. She has an extensive background in community mobilization, qualitative assessments, as well as program framework for community outreach activities in humanitarian operations. Previously, Thiaba worked as a RCCE expert with UN IOM and Doctors Without Borders (MSF) for several years in

fragile and complex settings. She is one of the co-curators of the first bilingual online library for RCCE material for COVID-19 response for the West African regional technical working group. She is also engaged in various social science projects in the area of vaccines uptake, including the WHO Advisory Committee on Vaccine Safety (AACVS).

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**Daniela Da'Costa Franco, MSc**, is a young early-career researcher from Guatemala. She has a Master's Degree in Social-Epidemiology from University College London (2019-2020), with a strong background on surveillance systems and health implementation at primary healthcare. She has worked with surveillance systems for the COVID-19 response; digital health implementation; health promotion interventions with a culturally pertinent and transdisciplinary approach; behavior health analysis through the adherence to preventive and mitigation measures of COVID-19 and COVID-19 vaccination. She also has experience in medical entomology, mainly with malaria vectors understanding the development of insecticide resistance, mosquito rearing, and freshwater entomology monitoring systems. In 2021, she collaborated in the "Rapid Ethnographic Assessment of Factors Influencing Vaccination against COVID-19", a nationwide cross-sectional survey commissioned by the Ministry of Health and the Pan-American Health Organization aimed to inform the COVID-19 vaccine promotion campaign. Currently a researcher guest of the Unit of Medical Anthropology of the Center for Health Studies in Guatemala, and part of the Institute of Inclusive Health, her main interest is to contribute to build the most appropriate surveillance systems for resource limited settings, and transfer the necessary skills to healthcare workers to promote evidence-based decisions.

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**Arnaud Gagneur, MD, PhD**, trained in Pediatrics and Neonatology at the University of Brest, France. He received his PhD in Virology at the University of Brest, and is a full professor at the Faculty of Medicine and Health Sciences of the University of Sherbrooke. He is affiliated with the CIUSSS de l'Estrie - CHUS Research Center (Senior Clinician-Scientist FQRS- Quebec Research Funds-Health). He has developed and validated the concept of promoting vaccination in

maternity hospitals to parents using MI techniques, the PromoVac strategy, in a pilot study in the Eastern Townships and in randomized controlled trials (RCTs) conducted in Quebec and Canada. In collaboration with the Quebec Ministry of Health, he participated in the implementation of the PromoVac strategy as a provincial public health program, the EMMIE program, and conducted its evaluation. In addition, Arnaud's research team developed a training on MI applied to vaccination for health professionals and developed the evaluation tool for this training. He is also developing training on the MI approach to immunization for health care workers in collaboration with UNICEF, US CDC and Santé Publique France.

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**Bhakti Ghatole, MSAP**, works as a Research Assistant at the initiative for Health Equity Advocacy and Research (iHEAR) at Sangath India. Her work is informed by an equitable, intersectional and participatory research approach. She also works as a mental health professional and practices as a Queer and disability-affirmative, trauma-informed and narrative-therapy practitioner. She was a gold medalist in economics and political science during graduation. Later, she got her Master's Degree in Applied Psychology and is currently pursuing her second master's in counselling social work. Bhakti's goal is to use her own experience of being visually impaired, and work for the empowerment of persons with disabilities and other marginalized communities. She firmly believes that every individual has the right to exist, experiment and experience the intricacies of human life.

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**Amaya Gillespie, PhD**, is an experienced researcher and change strategist, having earned a PhD in Behavioral Science. She has held a range of senior leadership roles in international organizations. She has a strong public health background with more than 20 years' experience in the design of 'human'-centered solutions to address the world's toughest public health problems. She has led global, regional and national initiatives, including in emergencies (e.g., Ebola, Zika, HIV) and most recently, the regional response to COVID-19 in UNICEF's Middle East and North Africa Region. Amaya is highly skilled at integrating evidence from various disciplines, with unique expertise

in addressing complex challenges at the intersection of systems and communities. Amaya holds Australian and Spanish nationalities.

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**Mónica Berger González, PhD, MPH**, is a sociocultural anthropologist from Guatemala with a PhD in Sciences from ETH Zürich. She heads the Unit of Medical Anthropology at the Center for Health Studies in Universidad del Valle de Guatemala and is an associate researcher of the Swiss Tropical and Public Health Institute in Basel. Her research is focused on intercultural transdisciplinary processes to address plurimedical systems in inequity, ethnomedicine of Mesoamerican populations, public health policy and its impact on indigenous groups, One Health approaches, among others.

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**Glenda Gray, DSc, MBBCh, FCPaedS**, is an NRF A1 rated scientist, CEO and President of the South African Medical Research Council (SAMRC), and a qualified pediatrician and co-founder of the internationally recognized Perinatal HIV Research Unit in Soweto, South Africa. Prior to her appointment at the SAMRC, she was the Executive Director of the Perinatal HIV Research Unit, an affiliate of Wits University. Glenda's global profile includes a role as Co-PI of the HIV Vaccine Trials Network (HVTN), an international collaboration for the development of HIV/AIDS prevention vaccines. As the COVID-19 pandemic developed, she was among the first to lead public discourse on the issue, and to move quickly to establish COVID-19 vaccine trials in South Africa, utilizing the experience and network developed over the years for the HIV vaccine work. Glenda served as a Protocol Co-Chair of the multi-country Ensemble Study investigating the single-dose Ad26.COVID.2.S vaccine as an emergency response intervention. When South Africa's national vaccine roll-out faltered, her international stature enabled her to negotiate a donation of 500,000 doses of the Ad26.CoV.2 vaccine before any emergency use authorization was available and conduct a phase 3B open-label study in health care workers, called the Sisonke Study. She received South Africa's highest honor – the Order of Mapungubwe - for her pioneering research in PMTCT. Other prestigious accolades include the Nelson Mandela Health and Human Rights Award for significant contributions in the field of mother-to-child transmission of



HIV. Selected as one of Time's 100 Most Influential People in the World, Forbes top 50 women in Africa, honorary degrees include: DSc (honoris causa Simon Fraser University), DSc (honoris causa Stellenbosch University), and LLD (honoris causa Rhodes University). She is a member of the National Academy of Medicine, the Academy of Science of South Africa, the African Academy of Science and the World Academy of Science. She is fellow of the American Academy of Microbiology. She is a member of the board of GARDP, AAHI and a member of the WHO TB-STAG.

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**Magid Al Gunaid, MBBCH, MPA**, is a medical doctor specializing in Health Systems Management and Public Administration. During the period 1996-1999, Dr. Al Gunaid served as the District Health Director in Ibb governorate at the Ministry of Public Health and Population (MoPHP), Yemen. After that, he was assigned as the Director of Health Insurance, and then held the Director General position of the General Planning Directorate, then the Director General of Health Policy and Technical Support Unit until mid 2004. In June 2004, he was appointed as the Deputy Minister for Primary Health Care at the Ministry of Public Health and Population, Yemen. In 2016, he joined the Global Health Development | Eastern Mediterranean Public Health Network (GHD|EMPHNET) as the Polio and Immunization Team leader then the Public Health Programs Director since March 2020. During the period of 2008-2011, Dr. Al Gunaid was a board member with Gavi and the Global Fund where he was a member of the Program and Policy Committee. In addition, he was a member of the EMR Regional Technical Advisory Group for immunization between 2010 and 2015.

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**Anuradha Gupta, MBA**, is the President of Global Immunization at the Sabin Vaccine Institute. A veteran public health leader, Ms. Gupta has in her previous roles spearheaded a host of successful global initiatives to improve the health of women and children and harness the full power of vaccines. Her work has created a profound impact at a global scale, saving and improving millions of lives. Prior to Sabin, Ms. Gupta spent several years at Gavi, The Vaccine Alliance, as its deputy CEO, where she pioneered the concept of zero-dose children – focusing on children who have not received even a single

dose of the most basic vaccines. She also led efforts to roll out a new framework for a country-centric engagement immunization strategy with remarkable success. Before her time at Gavi, Anuradha served as Mission Director of the National Health Mission of India, where she ran the largest public health program in the world and played a leading role in the country's efforts to eradicate polio, reduce maternal and child mortality, and revitalize primary health care. Anuradha holds a Master of Business Administration from the University of Wollongong in Australia and received executive education from the John F. Kennedy School of Government at Harvard University, the Stanford Graduate School of Business and the Maxwell School of Citizenship and Public Affairs at Syracuse University.

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**Saif ul Hadi, MA**, is Director – Global Access and Behavioral Research at IAVI in India, where he oversees policy research, market shaping, demand generation, community engagement and behavioral science projects towards enabling equitable access for life-saving innovations including vaccines and antibodies in India and other LMICs. Previously, he was Principal Consultant – Innovation at Sightsavers, and before that he was Manager – Employability Education and Rural Development at Medha. His interdisciplinary background in human behavior, health policy, persuasive communications and computer science has enabled him to lead complex, multidisciplinary interventions across a range of domains including HIV, TB, respiratory diseases, reproductive health, pandemic preparedness, non-communicable diseases, disability, and health education. Saif has successfully led the design and development of three suites of physical and digital games leveraging experiential learning strategies for influencing health behavior, vaccine uptake and research participation among vulnerable populations in India and eastern and southern Africa. He has played a key role in providing technical and management support to flagship global health initiatives including the India-Africa Health Sciences Collaboration, National Biopharma Mission, and National HIV Cohorts Program. He has also contributed to global discourses on biomedical research ethics and good participatory practices (GPP).

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**Emily Hoffman, MD**, was born and raised in New York. She graduated from State University of New York Downstate College of Medicine in 2017. She did her Internal Medicine residency at Montefiore Medical Center from 2017-2020 and stayed an additional year as chief resident in 2021. Dr. Hoffman is passionate about community health education as well as medical education, and she was part of a Medical Education Pathway in both medical school and residency. She is now finishing her second year as an Infectious Disease fellow at New York University Grossman School of Medicine and will be staying on as faculty as a clinical Assistant Professor this upcoming academic year. She lives in New York with her husband and two children.

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**Kate Hopkins, PhD, MPH**, is Director of Research, Vaccine Acceptance & Demand at the Sabin Vaccine Institute, overseeing research programming across the Vaccine Acceptance & Demand team to implement program activities, expand and manage partnerships, invest in new research projects and continue the growth of Sabin's thought leadership programming. Prior to joining Sabin, Kate spent 11 years living and working in sub-Saharan Africa conducting infectious disease prevention and psychosocial-behavioral research and health service program implementation in low- and middle-income countries— with particular focus on high-risk and vulnerable populations. Managing multi-country and multidisciplinary teams, her past portfolio of work included supporting clinical research site operations and strengthening capacity for the conduct of HIV and COVID-19 vaccine clinical trials within the HIV Vaccine Trials Network and COVID-19 Prevention Network. Kate supported the implementation of the ENSEMBLE J&J Phase III clinical trial and the subsequent SISONKE J&J COVID-19 vaccination rollout among healthcare workers in South Africa. Kate has been a joint-Faculty Researcher for the Faculty of Health Sciences, University of the Witwatersrand in Johannesburg, South Africa, for nine years and is a virtual course lecturer on Operational Research within a post-graduate diploma program in TB/HIV Management for the University of Cape Town in South Africa. She was awarded funding for her PhD study from the CDC as a PEPFAR-funded activity under its Cooperative Agreement with the South African Medical Research Council, earning her degree from the University of the

Witwatersrand School of Public Health. She also holds a Master's Degree in Public Health, with a focus on Global Health, from Boston University School of Public Health.

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**Julio Ichazo, MAppEc**, has a degree in Sociology from the University of Buenos Aires and a Master's Degree in Applied Economics from the Torcuato Di Tella University. Currently, he works as a Project Coordinator at the Bunge and Born Foundation. In previous experiences, Julio worked at the public sector as responsible for impact evaluation, at the National Ministry of Culture, and also at the Buenos Aires city Government. Julio is part of the Social Innovation department at Bunge and Born Foundation, and leads projects related to early childhood, rural education and health. In the early childhood area, he was team leader and responsible for the impact evaluation of "Crianza en Red", a communication campaign that was designed to convey very easy to understand parenting guidelines. The information was sent to the families through WhatsApp following the principles of behavioral science. Nowadays Julio is team leader of the Vaccine Confidence and Access Index in Argentina, a periodic national survey that monitors the confidence and Access levels to vaccines of the general population.

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**Aamer Ikram, PhD, MCPS**, is Chief Executive Officer of National Institutes of Health Pakistan. Aamer holds multiple national and international portfolios including: Chair Advisory Board TEPHINET; Chair Board of Directors IFBA; member Board Gavi, The Vaccine Alliance; Executive Board IANPHI; Executive Committee Institute of Safety in Technology & Research, UK; Technical Advisory Group – Biosafety, WHO; adjunct faculty Emory University; Ex-Executive Council of International Society for Infectious Diseases; and Co-Chair Biological Sciences Committee, Higher Education Commission; and member multiple National Working Groups. Aamer has extensive experience working with International Health Regulations, Global Health Security Agenda, Integrated Disease Surveillance & Response, One-Health, Biosafety & Biosecurity, among others, achieving new standards for the country. He has been on the forefront for the multiple deliveries against the current COVID-19 scenario. He was awarded

FRCP by Royal College Edinburgh; FRCPATH by Royal College of Pathologists London; and a Fellowship in Public Health from Royal Colleges UK. He is a Fellow of Pakistan Academy of Sciences. Attained Registered Biosafety Professional (RBP) from the American Biological Safety Association, Biosafety Professional from Institute of Safety in Technology & Research. Aamer is actively engaged in academics and research.

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**Chinedu Anthony Iwu, MBBS, MPH, MBA**, is a Public and Community Health Physician and Consultant with Imo State University and teaching hospital; a Fellow of the West African College of Physicians. He has been a trainer/facilitator for the World Health Organization in the area of Infection, Prevention, and Control for Health Care Workers in Imo State. Also, he is an external reviewer and evaluator for World Health Organization's manuscripts on best practices in polio eradication initiatives and other health interventions in Nigeria. He has served as a National Supervisor for the Measles Vaccination Campaigns in Imo State and has authored over 50 research publications in different areas of public health. He has been involved with policy decisions and public engagement in immunization activities and also, research activities in vaccine distribution, vaccinations in hard-to-reach areas, vaccine hesitancy issues, immunization uptake and coverage strategies.

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**Marley Jurgensmeyer, MPH**, has experience in research related to multiple vaccine and global health areas, including improving HPV vaccine introduction and access in low- and middle-income countries, monitoring COVID-19 vaccine effectiveness, and implementing accessible vaccine data visualizations. As a Research Associate at the International Vaccine Access Center at the Johns Hopkins Bloomberg School of Public Health, she works on the Coalition to Strengthen the HPV Immunization Community (CHIC) project, which aims to accelerate progress in HPV vaccine introduction, access, and program optimization in Gavi-eligible countries. She also works on the HPV Vaccine Acceleration Program Partners Initiative (HAPPI) Consortium, and on VIEW-hub (view-hub.org), which is an online, interactive, map-based platform for visualizing data on vaccine use and

impact. She received her Master of Public Health from the University of Vermont Larner College of Medicine.

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**Richard Kabanda, MPH, MBA, PhD**, is a Public Health Specialist, and currently heads the Health Promotion, Education and Health Communication Department at Ministry of Health, Uganda. The department is charged with planning, implementation and coordination of Community Health Workers Programs in the country, creating demand for vaccination and immunization services on top of other Public Health interventions through health promotion and disease prevention approaches. Richard represents the 14 Eastern Africa countries to the Africa CDC Technical Committee on Community of Practice for Public Health Risk Communication & Community Engagement, where he is also a co-chair. Further, Dr. Kabanda chairs the Health and Gender committee for Buganda Kingdom; a Member of the Allied Health Examinations Board; Community Advisory Board at Mildmay Uganda; and a member of the Mubende Regional Referral Hospital Board. He holds a PhD in Public Health specializing in Health Promotion & Disease Prevention; a Master of Public Health – Health Promotion; and a Master of Business Administration from Uganda Martyrs University & University of South Wales, UK. He is a Fellow of Public Health at the African Institute of Public Health; and a Member of International Society for Global Health (M - ISoGH), Edinburgh, UK.

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**Patrick Kahondwa** is a science journalist from the Democratic Republic of the Congo and founder of the ScienceMediaRdc media. He works for Scidev.net and freelances for VaccinesWork. His reports focus mainly on environmental and health issues, with a particular emphasis on the topic of vaccination. As a journalist since 2011, Patrick Kahondwa worked at Radio Universitaire, a local radio station in the city of Bukavu, where he was in charge of programs and news for several years. After that, he worked as a journalist for Studio Hironnelle RDC, a project of the Hironnelle Foundation in the Democratic Republic of the Congo. He also worked for the international organization Internews as part of the AFIA AMANI Grands Lacs project, a project to combat rumors about vaccination against COVID-19. Active in science journalism since 2015, he helped

create the network of science journalists in French-speaking Africa and organized the first-ever World Conference of Science Journalists.

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**Charles Kakaire, MPH**, is the Social and Behaviour Change Specialist in the Immunisation Demand section at UNICEF Headquarters in New York where he supports the roll out of human-centered approaches, HPV vaccine communication and interpersonal communication for immunization. He also oversees the UNICEF Immunisation Demand engagement with Faith based Partners. Prior to this role, Charles worked with the UNICEF regional office for Eastern and Southern Africa overseeing the Risk communication and community engagement components of humanitarian and public health emergencies as well as the Johns Hopkins Center for Communication Programs on various regional projects. Charles holds a Master of Public Health/Social and Behavior Change Communication from University of Witwatersrand. He recently co-authored a chapter in the Book - Communication and Community Engagement in Disease Outbreaks; Dealing with Rights, Culture, Complexity and Context.

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**Chrys Kaniki, MD, PhD**, is a medical doctor by profession, an Africa CDC Public Health Analyst, PhD candidate in Reproductive Health Sciences, and a Public Health practitioner. He currently works in the Office of the Director General of the Africa Centres for Disease Control and Prevention as a Senior Technical Officer for Strategic Programmes and coordinates the Africa CDC AU Bingwa Initiative and the newly appointed Africa CDC Youth Advisory Team for Health. Dr. Kaniki is a passionate social and Public Health-oriented professional driven to contribute to better and more effective social, health and development policies and programs in Africa. Proactive in attaining a set objectives in a work environment, he is committed to Youth inclusion and engagement, Sexual and Reproductive Health and Rights, Public Health Research, Communications & Information Systems with a career ambition of becoming a Public Health writer.

**Robert Kanwagi, MPH**, is a Research Fellow for the VCP and leads projects in the Africa region, including the Africa Centres for Disease Control Working Group. He has a professional background as a social worker and public health professional and holds a Master's Degree in Public Health. Robert is currently working with the international COVID-19 vaccine acceleration program COVAX, as well as being a member of Gavi's Health Systems and Immunization Strengthening Team. He formerly worked with World Vision International as program coordinator of their Ebola vaccine project and with several of their other public health programs in Africa.

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**Stacey Knobler, MSc**, has more than 20 years' experience researching and developing programs and recommendations related to public health, the management of health systems, vaccines and vaccination. As Vice President, Vaccine Innovation & Global Immunization at Sabin Vaccine Institute, Stacey leads Sabin's strategic planning efforts across organizational programming; convenes global experts to recommend strategies for accelerating and transforming vaccine development and delivery; assesses changing policies and practices across the vaccine development, regulatory and response landscape; and reviews how emerging technologies can benefit future vaccine development and delivery. With the Fogarty International Center at the U.S. National Institutes of Health, Stacey supported strategic planning and program direction for the Division on International Epidemiology and Population Studies, inclusive of the Malnutrition and Enteric Disease Study (MAL-ED), the Multinational Influenza Seasonal Mortality Study (MISMS), and training and capacity-strengthening initiatives focused on bioinformatics and phylogenetics, epidemiological modeling and data analytics, and biosafety and biosecurity systems in Sub-Saharan Africa, South Asia, Latin America, and the Middle East. At the National Academy of Sciences Institute of Medicine (NAM), she was the founding director of the Forum on Emerging Infections, led multiple projects to establish global public health priorities—including the scale-up of antiretroviral treatments and neurological and psychiatric disorders—and she developed a partnership effort between the National Academies and 8 African Academies of

Science (ASADI). Stacey has published over 45 peer-reviewed articles and edited volumes. She earned a Master of Science degree in Public Health from the London School of Hygiene & Tropical Medicine in the UK. Stacey serves on the steering committee of the Influenza Vaccine Roadmap Initiative and is a member of the Global Funders Consortium for Universal Influenza Vaccine Development.

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**Yulianto Santoso Kurniawan, MD**, is a medical doctor, specializing in child health. He graduated from the University of Indonesia. He recently led a two-year national risk communication program on COVID-19 in Indonesia, DFAT funded. The program aimed to improve preventive health behavior and vaccine acceptance through risk communication and community engagement. Over the last 15 years, he has worked in the Community Integrated Childhood Illnesses program, developing guidelines and modules for cadres, doctors, and faith leaders using a social behavior change framework, led COVID-19 risk communication for cadres, and developed a tuberculosis and pneumonia guidebook. He has worked as a clinician from primary health care level to national referral hospital. He is one of DT Global Asia Pacific Emerging Leaders in International Development, and WHO Asia Pacific trained fact-checkers.

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**Heather Lanthorn, ScD, MPH**, formerly served as associate director at IDinsight, acting as a senior member of the Research, Evaluation, and Data (RED) team to bring a strong focus on methodological rigor and research ethics across health and education projects. Heather is an affiliate at the Busara Center for Behavioral Economics (Nairobi), a researcher with the Dignity Project (Nairobi), and a research advisor to Tostan (Senegal). Heather holds an ScD in Health Systems, Global Health & Population from Harvard University's T.H. Chan School of Public Health, an MPH from the University of Michigan School of Public Health, and a BA in anthropology from Wake Forest University.

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**Heidi J. Larson, PhD**, is Director of The Vaccine Confidence Project and Professor of Anthropology, Risk and Decision Science. Her research focuses on managing risk and building trust. She is particularly focused on public cooperation during emergencies – disease

outbreak, natural disasters, terrorism and conflict. Heidi previously headed Global Immunization Communication at UNICEF, chaired Gavi's Advocacy Task Force, and served on the WHO SAGE Working Group on vaccine hesitancy. She is the author of *STUCK: How Vaccine Rumors Start – and Why They Don't Go Away* (Oxford University Press, 2020). In 2021, she was awarded the Edinburgh Medal and BBC named her as one of the 100 most influential women in the world.

**Julie Leask, MPH, PhD**, is professor and social scientist specializing in immunization in the School of Public Health, University of Sydney. She is a member of the Sydney Institute for Infectious Diseases and visiting professorial fellow at the Australian National Centre for Immunisation Research and Surveillance. She has qualifications in public health, nursing and midwifery. Her research focuses on the behavioral and social aspects of vaccination and risk communication. Julie currently holds an Investigator Leadership Fellowship from the National Health and Medical Research Council (NHMRC). She was chair of the WHO/UNICEF Behavioural and Social Drivers of Vaccination working group 2018-2022 and sits on advisory groups for WHO, UNICEF, NHMRC, Therapeutic Goods Administration, and Australian national and state governments. She has won several awards for her research and impact.

**Chelsey Lepage, MA**, thrives at the intersections of research, technology and practice. She has extensive experience building lasting impact-driven partnerships between often unlikely collaborators and leading complex programs on-ground in more than 20 countries. At Irim, she leverages human-centered design methods and principles to tailor programs to clients and – most importantly – the communities they serve.

**Gloria Lihemo, MS, MA**, is an immunization Social and Behaviour Change Specialist at UNICEF headquarters. She coordinates UNICEF's work on COVID-19 vaccine acceptance and uptake, supporting country and regional initiatives on generating and implementing evidence-based strategies to engage communities to increase COVID-19 vaccination coverage, while at the same time, collaborating with

global stakeholders as part of the global Vaccine Acceptance Task Team to develop technical guidance and tools that support countries in their work in promoting demand for vaccination. She has over 15 years' experience designing and implementing social and behavior change strategies to improve water, sanitation, hygiene (WASH), health, and nutrition outcomes. Her work spans assignments with international organization including UNICEF, the World Bank, Canada's International Development Research Centre and INGOs in sub-Saharan Africa (Kenya, Somalia, Chad, and D.R Congo) and Central and South Asia (Pakistan, Tajikistan, and Nepal). A cross-cutting theme throughout her work has been ensuring the integration of gender responsive programming as well youth engagement and participation.

**Rupali J. Limaye, PhD, MPH, MA**, serves as a full-time faculty member at the Johns Hopkins Bloomberg School of Public Health, in the Departments of International Health, Epidemiology, and Health, Behavior and Society. Widely seen as an expert in vaccine behavior and decision-making, including vaccine hesitancy and acceptance, she serves as the Deputy Director at the International Vaccine Access Center. Primarily focusing on infectious diseases, Dr. Limaye is a social and behavioral scientist and health communication scholar. Her mixed-method work examines how various influences affect health behavior and how to leverage those influences to affect positive behavior change. She also studies how health information can best be communicated to individuals in different contexts and through different channels. In her 15 years of working in global health, she has worked in more than 30 countries from both research and implementation perspectives, on topics including immunization, family planning, HIV/AIDS, maternal and child health, and alcohol, and teaches classes on health behavior change and persuasive communication. She received her PhD from the Johns Hopkins Bloomberg School of Public Health. She also holds an MPH in global health, an MA in international affairs, a BA in political science, and a BS in journalism.

**Porcia Manandhar, MSPH**, is a doctoral candidate at the Johns Hopkins Bloomberg School of Public Health (BSPH) in the Department of International Health.

She has field experience and a keen interest in conducting vaccine science and policy research in low-resource settings.

**Stefan Mandić-Rajčević, MD, PhD**, is a doctor of medicine with a Ph in Occupational Medicine and Industrial Hygiene from the University of Milan with more than ten years of experience in the field of research, with a particular focus on research and teaching methodology, instructional design, data collection, management, processing, analysis, and reporting. His main competencies include public health research and teaching, infodemic management, behavioral and cultural insights, and the development and validation of data collection instruments. His international experience includes education, work in several European and non-European countries, and collaboration through projects in Central Asia, where he served as an instructor in public, environmental and occupational health, research design, and statistics. Since 2010, he has worked in a World Health Organization (WHO) collaborating center and on various WHO projects in international collaboration and evidence-based medicine. He is a certified WHO Infodemic Manager, Castor Electronic Data Capture (EDC) for clinical trials Data Manager, and Research Electronic Data CAPture (REDCap) Administrator of the Faculty of Medicine (University of Belgrade), and an expert in online and offline data collection tools, and open-source tools for reproducible research (R programming language and environment for statistical computing). He has published more than 45 peer-reviewed scientific papers in which he assumed different roles, from principal investigator to statistician.

**Emily Miller, MGH**, is a faculty research associate in the department of International Health at the Johns Hopkins Bloomberg School of Public Health and the International Vaccine Access Center (IVAC). She specializes in global health education and supports a variety of education and learning activities including curriculum design, course development, learner engagement, and other capacity strengthening initiatives. She has spent four years working abroad, and her professional experience has spanned a range of coordination, implementation and M&E activities for global health programs and community

health engagement in over 25 countries. She also spent two years teaching English as a Second Language (ESL) and is fluent in Spanish. Since 2018, she has focused on global health education and transformative learning, and she is particularly passionate about models that preserve local expertise and embrace diverse epistemological knowledge systems. She has a range of education and training initiatives within the International Vaccine Access Center in the International Health Department of the Bloomberg School of Public Health. Her current projects focus on maternal immunization, comprehensive primary healthcare, multisectoral convergence, vaccine hesitancy, and optimizing public health training. Emily holds a BSc in Public Health from the University of Maryland, College Park, and a Master of Global Health (MGH) from the Universitat de Barcelona.

**Mohamed Modber**, is a Community Health Nurse, Young Nurse Leader, Researcher, Global Health Enthusiast and Vaccine advocate. He graduated from the University of Khartoum Faculty of Nursing Sciences with a Bachelor of Science in Nursing and has worked with several nursing bodies that have helped him strengthen his leadership. During his time at Global Health Focus Africa (GHF), Mohamed organized the first international Global Health Nursing Course University of Khartoum in 2017, went through constant mentorship, strengthened his research skills, and published research papers with GHF. Mohamed has experienced the Sudan health system at various levels: as a clinician providing care and health education to the community, public health practitioner in the Sudan Ministry of Health, and humanitarian aid provider with Médecins Sans Frontières France. Mohamed was awarded the Nursing Now Challenge, Sabin Vaccine Institute's Global Solution Initiative Award for implementing a project that contributed to raising awareness of Sudanese nurses to tackle COVID-19 vaccine hesitancy in Sudan. He was also awarded the International Nurses Day 2022 Nursing Now Challenge (NNC) Award for Leadership in recognition of his leadership services at the local and regional levels. Mohamed received the Burdett Trust for Nursing Scholarship to attend the Global Health Network Conference (TGHN) 2022 in South Africa, interact with global nurse leaders, and learn how to transform nursing research into policy.

**Susanne Montgomery, PhD, MSN, MPH**, is a social/behavioral epidemiologist with a focus on hard-to-access, underserved populations experiencing health disparities. She has received funding from NIH, CDC, the State of California and many Foundations, has published over 140 peer-reviewed articles, and has conducted and/or served as a consultant on many evaluation and research projects in the US as well as internationally, including Rwanda, Sierra Leon, South Africa, Congo, Cameroon, South America, South East Asia, India, and refugee projects in Europe. She is part of a regional vaccine hesitancy research group, is certified as a CRM guide and leads several translational CRM research efforts.

**Dr. Corrina Moucheraud, ScD, MPH**, is an Associate Professor in the Department of Health Policy and Management at the Fielding School of Public Health, University of California Los Angeles, and Associate Director at the UCLA Center for Health Policy Research. Corinna is a global health policy and systems researcher, focused on the question: how can we deliver high-quality, efficient, equitable, sustainable health services in resource-constrained health systems? She obtained her ScD from the Department of Global Health and Population at the Harvard T.H. Chan School of Public Health, and her MPH from the Department of Health Behavior at the University of North Carolina Gillings School of Global Public Health.

**Raveesha R Mugali, MD, MPH**, is an experienced public health physician and leader who has worked in 18 countries over the past 20 years. His areas of expertise include global public health, health management, and innovations in global health. Currently, he serves as a Health Specialist-Immunisation at UNICEF, where he is leading Cambodia's COVID-19 response, improving essential health services, and strengthening immunization systems. Prior to this, he led the Gavi.4.0 HSS program with Gavi the Vaccine Alliance in Geneva, managing 16 country portfolios. He also contributed to improving health services in Afghanistan during a humanitarian crisis, designed and secured funds from donors for and worked in India on maternal and child health and disease control programs. Dr. Mugali is a physician and holds an MPH and MBA in health management and has done advanced studies in designing

transformative innovations in global public health from Johns Hopkins University in the USA. He is also the author of several peer-reviewed articles, theses, book chapters, and funding proposals.

**Zia Muneer, MPhil**, is a development professional from Pakistan and earned a Master's Degree in Development Economics from the Institute of Business Administration, Karachi, and studied at Concordia College, Minnesota, USA, during undergraduate studies. Over the past seven years, Zia has led the field implementation, monitoring, and evaluation of public health projects and programs, including randomized control trials. He has experience in public health, behavioral and experimental economics, and social health protection. Currently, he is associated with the Maternal & Child Health Program at IRD Pakistan. He is primarily responsible for monitoring the mobile conditional cash transfer (mCCT) program for immunization scale-up in the seven low-coverage districts of Sindh, Pakistan. Zia's research interests include monitoring and evaluation, economic evaluations in healthcare, and behavioral economics.

**Kiranmayee Muralidhar, MBBS, MPH**, is a Research Physician at Public Health Research Institute of India (PHRII), Mysore, India. She has a medical degree from Vydehi Institute of Medical Sciences, Bengaluru, India and a Master's Degree in Public Health from the University of Miami, Florida, USA. She is a primary care physician and an epidemiologist by training. Over the past five years, she has been working in geriatrics, women's health, and health disparities with a focus on social and psychological domains along with physical health. During her public health studies, she worked at the Miami VA Healthcare System and the University of Miami's Department of Epidemiology. She also has experience working on infectious and non-communicable diseases in various settings in South India. She is currently pursuing her PhD at JSS Academy of Higher Education and Research, Mysore, India and is a National Institutes of Health (NIH) Global Infectious Diseases research trainee. She also mentors students and fellows in public and global health at PHRII. She has a broad research background with projects in the U.S. and India and has published work in

multiple peer-reviewed journals as well as presented at renowned international conferences.

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**Mutua L. Mutinda, KECN, KRCHN**, works for Nairobi City County Government-Health Services, Kenya. She is Head of Health promotion, in-charge of Advocacy, Risk Communication, Community Engagement, Public literacy, Health Communication for Health Services in Nairobi. She has been instrumental in delivering strategic Social Behavior strategies during the COVID-19 pandemic, COVID-19 Vaccination, HPV, Polio and Measles campaign. She is passionate, committed and focused to implement Health Promotion Models to empower citizen make informed decisions towards improving their quality of health. She attributes her zeal from cross-country learning and sharing forums, and the invaluable knowledge from the expert mentors who she has come across in her line of duty. She aspires to make communities better since her first appointment as a community nurse in the rural Kitui in the early 90s. Lilly believes there is opportunity to use digital space and social media to promptly inform and educate communities. School going children and Women should be used as agents of Behavior change at household and in communities. She believes “Embracing Health Promotion and Preventive Promotive Health” is the way to eradicate immunization Preventable diseases and prevent epidemics. Let us leverage on Health Promotion as the next big agenda in changing Health Perspective.

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**Sangwe Clovis Nchinjoh, MD, MPH, MSc**, is a Public Health Physician and Researcher with a sound educational background (MD, MPH, and MSc - Healthcare management) and extensive experience and passion for Essential Healthcare Access, Health System Strengthening, and Disease Control, especially in fragile settings. His resilience and resourcefulness are reflected in five years of progressive impact at international, national, and sub-national levels through excellently executed operational and strategic roles. Molded by tears and passion for serving vulnerable communities, Sangwe is constantly developing, managing, coordinating, or volunteering in projects that will improve access to health services in remote rural

areas, nomadic populations, and conflict & fragile settings.

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**Chattiya Nitpolprasert, MA**, is a social and behavioral researcher at Adam’s Love Global Foundation for MSM (men who have sex with men) and Transgender Health (ALGO), leading in implementing technology-based interventions and conducting behavioral research in HIV prevention and care. Since 2010, Chattiya has successfully harnessed communications technology in engaging hard-to-reach, discreet and closeted MSM and transgender (TG) individuals into early HIV testing and treatment in Southeast and East Asia. She has extensive experience in designing innovative and culturally sensitive strategies to address HIV care, support and counseling needs of key populations living with HIV. She is currently a PhD candidate at the Amsterdam Institute for Global Health and Development (AIGHD), Department of Global Health, Amsterdam University Medical Centers, University of Amsterdam, the Netherlands.

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**Doris Njomo, PhD, MA**, is a principal research scientist at the Kenya Medical Research Institute (KEMRI) in Nairobi with a PhD in Public Health from Jomo Kenyatta University of Agriculture and Technology. Her area of research interest is in social determinants of health and health-seeking behavior, and she has experience of close to 20 years conducting implementation research in control and elimination of preventive chemotherapy Neglected Tropical Diseases (NTDs). She has won several research grants including but not limited to the USAID, UK DFID through the NTDs Support Centre at the Taskforce for Global Health, the Bill & Melinda Gates Foundation and UNICEF/UNDP/ World Bank/WHO Special Programme for Research and Training in Tropical Diseases. She is an African Doctoral Dissertation Research (ADDR) fellow where she has been recognized for research embodiment and has extensive experience in conducting mixed methods research studies. She has published 40 manuscripts in peer-review journals and mentored several postgraduate students. She has reviewed grant applications including but not limited to European and Developing Countries Clinical Trial Partnerships (EDCTP), the Consortium for National Health Research (CNHR), the Coalition

for Operational Research (COR) on NTDs, Neglected Tropical Diseases NGO Network and participated as a panelist/judge in several fora. Doris is a member of the African Research Network for NTDs where she serves as a mentor and grant reviewer. Currently she is serving as the Centre Director for Eastern and Southern Africa Centre of International Parasite Control (ESACIPAC), KEMRI. She have been serving as a reviewer in the KEMRI Institutional and Ethics Review Board for the last 10 years and as a member of the KEMRI annual scientific and health conference secretariat for the last 13 years.

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**Dumisile Nkosi, MSc**, is a highly motivated registered medical doctor from Malawi who was trained with the University of Malawi College of Medicine and a vaccinologist trained by the University of Siena. Currently, Dumisile works as a Clinical Trial Coordinator at the Training and Research Unit of Excellence in Malawi, overseeing a clinical trial that focuses on post-discharge malaria chemoprevention in under-five children admitted for severe anaemia and severe malaria in Malawi, Uganda, and Kenya. Their goal is to become a clinical research leader in infectious disease epidemiology in Africa. They are particularly interested and passionate about clinical research aimed at generating evidence to reduce the burden of infectious diseases in pregnant women and children in Malawi and across Africa.

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**Chisom Obi-Jeff, MPH**, is a Global Health Researcher and Implementation Scientist with demonstrated expertise in designing, implementing, and evaluating innovative and culturally acceptable primary healthcare interventions to improve the uptake and delivery of health services in low-resource settings. Her research interests include implementation research to inform policy decisions and program strategies and using participatory approaches and behavioral insights to address global health challenges, including vaccine hesitancy. Chisom is currently working with her team to strengthen the capacity of immunization program managers and health workers at the subnational levels in Nigeria to better understand and use immunization data for tailored immunization programs by incorporating adult learning principles in the design and delivery of immunization

training. By equipping the immunization workforce with human-centered design tools, Chisom and her team hope to pave the way for tailored immunization programs that resonate with the unique needs of diverse populations. Through this transformative work, they are poised to drive significant advancements in immunization service delivery and coverage.

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**Isaac Olufadewa, MBBS, MHS**, With over a decade of experience in global health and social entrepreneurship as well as his over 45 peer-reviewed publications, Dr. Olufadewa is an influential global young leader. He is a medical doctor, researcher, innovator, author and health policy leader with expertise in global public health and a staunch advocate for mental health and sexual health of young people. Dr Isaac is the Founder of Slum and Rural Health Initiative (SRHIN), a registered organization that takes quality healthcare to underserved people in urban slums, IDP (refugee) camps and hard-to-reach rural communities across several countries in Africa which is registered in four countries (Nigeria, Ethiopia, The Gambia and Sierra Leone). He was the youngest International Expert on the LANCET COVID-19 Commission Task force on Humanitarian Relief, Social Protection and Vulnerable Groups where he worked with former policymakers, researchers, advocates and UN officials to propose recommendations included in policy documents for the COVID-19 pandemic and post-pandemic period. He specifically led or co-authored two policy documents which are published on the Lancet Commission website – the first is on Children and youth and the other is on persons living with a disability. He earned his medical degree at Nigeria's Premier University – the University of Ibadan and his postgraduate degree at the Pan African University of Life and Earth Sciences Institute (PAULES) on a fully-funded scholarship from the African Union Commission. He also has a certificate on Public Administration and Management from the University of Minnesota, USA, on a fully-funded opportunity from the US Department of State and IREX. He has over 40 peer-reviewed publications in reputable journals such as the Lancet Global Health, Journal of Global Health, Global Health Journal, the Lancet Public Health among others in mental health, sexual health, digital health and global health inequities among others.

**Hinda Omar**, has many years of experience working as a nurse and in public health as an expert in the areas of mother and child health, chronic diseases, infection control, and health research. Hinda has worked 16 years as a Registered Nurse in United Arab Emirates in different places like the ER department, Mother and baby clinic, chronic disease clinic lead, quality improvement group. Hinda was part in different research programs including Asthma, Diabetes, Women weight control, and Lip. Hinda is currently the Health Educator Specialist in the Minnesota department of Health since 2014 in the immunization section. She is a mentor, adviser, and consultant for childhood immunization. Hinda provides individual and group coaching about immunizations and public health improvement, and she worked on two measles outbreaks as outreach lead and prevention. Hinda has been awarded numerous certificates on her work in public health and ethics.

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**Saad Omer, MBBS, PhD**, is currently the Director of the University of Texas Southwestern Medical Center, and has conducted studies in the United States, Guatemala, Kenya, Uganda, Ethiopia, India, Pakistan, Bangladesh, South Africa, and Australia. Dr Omer's research portfolio includes epidemiology of respiratory viruses such as influenza, RSV, and - more recently - COVID-19; clinical trials to estimate efficacy of maternal and/or infant influenza, pertussis, polio, measles and pneumococcal vaccines; and trials to evaluate drug regimens to reduce mother-to-child transmission of HIV. Moreover, he has conducted several studies on interventions to increase immunization coverage and acceptance. Dr Omer's work has been cited in global and country-specific policy recommendations and has informed clinical practice and health legislation in several countries. He has directly mentored over 100 junior faculty, clinical and research post-doctoral fellows, and PhD and other graduate students. Dr. Omer has published widely in peer-reviewed journals including the New England Journal of Medicine, JAMA, Lancet, British Medical Journal, Pediatrics, American Journal of Public Health, Science, and Nature and is the author of op-eds for publications such as The New York Times, Politico, and the Washington Post. Dr Omer has received multiple awards –including the Maurice Hilleman Award by the National

Foundation of Infectious Diseases for his work on the impact of maternal influenza immunization on respiratory illness in infants younger than 6 months-for whom there is no vaccine. He has served on several advisory panels including the U.S. National Vaccine Advisory Committee, Presidential Advisory Council on Combating Antibiotic-Resistant Bacteria -Vaccine Innovation Working Group, and WHO Expert Advisory Group for Healthcare Worker Vaccination. He has also served as an academic affiliate of the Office of Evaluation Sciences –formerly known as the White House Social and Behavioral Sciences Team.

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**Mofeyisara Omobowale, PhD**, holds a PhD. in Anthropology from the department of Archaeology and Anthropology, University of Ibadan, Nigeria. She is University of Ibadan Postgraduate school Scholar 2010, a recipient of the American Council of Learned Societies–African Humanities Program (ACLS-AHP) Doctoral Fellowship 2012, the Cadbury Fellowship (Department of Anthropology and African Studies, Birmingham University) 2014 and ACLS-AHP Post-Doctoral Fellowship 2016. She is an Alumni, Brown International Advanced Research Institute 2013, a Carnegie Fellow and an Investigator on a Bill and Melinda Gates Foundation-sponsored Project, Immunization for working mothers in Ibadan (SheVaccs) 2019-2021. Her interests lie in medical/cultural anthropology, public health anthropology, maternal, child and adolescent studies, and medical history. Mofeyisara is a Senior Research Fellow/Lecturer at the Social and Behavioural Health Unit of Institute of Child Health, College of Medicine, University of Ibadan, Nigeria.

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**Suman Pant, MBBS, MPH-GH**, received his Master's Degree in Public Health-Global Health at Thammasat University, Thailand, and post-graduated from Global Clinical Scholars Research Training Program at Harvard Medical School recently. He has been serving as an academic researcher at the Government of Nepal, Nepal Health Research Council. He holds extensive experience in managing both public health and clinical research in Nepal, including study protocol design, regulatory submissions, budgetary control, implementation, pharmacovigilance, monitoring, data management, community engagement, recruitment and

retention of human subjects, scientific writing, and dissemination. Dr. Pant has recently completed a Nepal government-funded National COVID-19 Vaccine Survey as a lead investigator. He was involved as a co-investigator (trial monitor) in Phase III, a multinational, placebo-controlled COVID-19 vaccine trial in Nepal funded by Sanofi Pasteur, Inc. He has also been involved as a co-investigator in the Phase III clinical trial of a heterologous COVID-19 booster vaccine developed by SK Bioscience jointly with the Institute for Protein Design (IPD) at the University of Washington and supported by the Coalition for Epidemic Preparedness Innovations (CEPI) and the Bill & Melinda Gates Foundation (BMGF). He is also a co-investigator of the COVID-19 vaccine post-introduction evaluation (cPIE) in selected sites of seven provinces of Nepal, funded by the Centers for Disease Control and Prevention (USA). Additionally, he recently completed MLI funded Community-based Cluster Randomized Controlled Trial that evaluated the impact of microbe literacy strategies on improved vaccine uptake in peri-urban slum areas in Kathmandu. Dr. Pant has contributed to research on the topic(s): Therapeutic and Vaccine Clinical Trials, Community Trials, Outbreak Investigations, Molecular Epidemiology, Antimicrobial Resistance and Stewardship, and Health Research Ethics. He has an h-index of nine and co-authored 29 publication(s) receiving 828 citation(s).

**Nadia Peimbert-Rappaport** has been a professional in communications, media relations, and public affairs since 2001. Originally from Mexico, Nadia currently oversees collaborations with partners co-designing and implementing programs aimed at providing knowledge, skills, and connections for journalists specifically based in Africa, the Americas, Asia, and globally. She supports similar activities with health workers focused on immunization. Nadia worked in the environmental sector for 11 years, with a focus on climate change and sustainable development. She began her career working for the State Department at the U.S. Embassy in Mexico City and later served as Director of International Media and Official Visits at the Office for the President of Mexico. Before joining the Sabin Vaccine Institute, Nadia supported the Pan American Health Organization's COVID-19 public affairs response in the Americas. She has

ample experience in crisis-management communications, media and storytelling training, engagement, and strategic communications, all in multicultural and diverse settings. She has also organized multiple reporting tours and other activities for journalists, including in rural scenarios and Indigenous communities, and has led outreach efforts for numerous events at all levels.

**Deepa Risal Pokharel, MA**, is the Senior Adviser-Social Behaviour Change and team lead for Immunization Demand in UNICEF headquarters in New York. She has over 25 years of diverse experience in designing, leading, managing and implementing social and behaviour change communication (SBCC) strategies and interventions at national, regional and global level. Deepa has represented UNICEF in various global and regional forums to promote vaccine demand and community engagement. Before joining New York Headquarters, Deepa worked in UNICEF Pakistan, UNICEF Regional Office in Nairobi, UNICEF Zambia and UNICEF Nepal in different capacities working in immunization, health and broader social and behavior change on child survival, development and protection. She is a believer in people's positive strength and power of team to make things work.

**Carla Puca, MPH, MIDI**, is employed as a mixed-methods researcher within the Telethon Kids Institute's Wesfarmers Centre of Vaccines and Infectious Diseases. She is passionate about working in the infectious disease epidemiology research space. Her current projects focus on immunization uptake within the Aboriginal community in Perth. Her previous employment at Aboriginal Health Council of WA, involved exploring ways to reduce the transmission of trachoma and other preventable infectious diseases in remote Aboriginal communities through targeted environmental health strategies. Ms. Puca holds a Master of Public Health (University of Western Australia), a Master of Infectious Diseases Intelligence (University of New South Wales) and is currently undertaking a PhD exploring current and future approaches to pandemic preparedness in regional West Australian aged care networks.

**Farah Qamar, MD, MSc**, is an Associate Professor in the Department of Pediatrics

and Child Health at the Aga Khan University (AKU), Karachi, Pakistan. Her area of interest and expertise is pediatric infectious diseases. Her current research portfolio consists of several large grants covering diverse areas such as typhoid, diarrhea, COVID-19 and nutrition. She led the outbreak investigation of extensively drug resistant (XDR) typhoid fever in 2017 and published highly cited research in peer-reviewed medical journals such as the Lancet and The New England Journal of Medicine. As a result of this work, Pakistan was the first country among Gavi-eligible low-income countries which introduced the Typbar-TCV vaccine in their EPI program. Moreover, the data on vaccine impact and safety, generated from her ongoing projects will serve as a roadmap for other countries in the region to inform their policy decisions regarding the introduction of Typbar-TCV in their routine immunization program. She has worked in the field of vaccine preventable diseases for more than a decade.

**Rubina Qasim, RN/RM, BScN, MScN**, is working as Assistant Professor at the Institute of Nursing & Midwifery, Dow University of Health Sciences Karachi, Pakistan. Rubina has more than 10 years of teaching and research experience in both public and private sector academic institutions in Pakistan. Her area of research is maternal and child health including routine immunization, hesitancy, and vaccine acceptance among marginalized, hard-to-reach population. Rubina is the recipient of the Sabin Vaccine Institute 2020 Social and Behavioral Research Grant. She is leading a team of research staff including volunteer undergraduate nursing students, working for the health and social uplifting of the marginalized population living in the slum peri-urban Karachi, Pakistan.

**Mark Reñosa, MSN**, is a nurse by training. He has a Master's Degree and PhD in Nursing Science from the Philippines with over a decade of clinical and public health experience. He is a holder of an MSc in International Health and a current PhD student at the Heidelberg Institute of Global Health. Concurrently, Mark acts as Supervising Science Research Specialist for the Research Institute for Tropical Medicine, a research arm of the Philippines Department of Health. Their research interests lie at the intersection of health policy and promotion, systems



thinking, communication, and knowledge translation with a particular focus on the development of global health interventions using human-centered design and implementation research for infectious and neglected tropical diseases. Mark's current dissertation work explores the role that families, communities, and frontline healthcare workers can play in shifting and transforming vaccine confidence in the Philippines. Mark is an Emerging Voices for Global Health (2022) Fellow of Health Systems Global.

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**Nessa Ryan, MPH, PhD**, is a PHI/CDC Global Health Epidemiology Fellow, working on the Demand for Immunization team within the Immunization Systems Branch (ISB) of the Global Immunization Division (GID) of CDC-Atlanta. Nessa studied at New York University where she completed her PhD in Epidemiology and a post-doctoral fellowship in Global Implementation Science. Nessa will be working with her team on carrying out innovative applied epidemiologic research and implementation and behavioral science to assess factors contributing to vaccine hesitancy, and to develop, implement and evaluate behavioral interventions to improve vaccine confidence and uptake globally. Nessa is excited to contribute to the new field of infodemiology to understand how misinformation and disinformation is spread through social networks and to develop cognitively based interventions to address and manage infodemics. Nessa speaks conversational French.

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**Lili Nur Indah Sari, MPP**, is a Senior Program Officer for Vaccine Program at Clinton Health Access Initiative (CHAI), Indonesia Office. At CHAI, Lili's main responsibilities include providing technical support for the design and implementation of sustainable financing for immunization programs particularly for the new vaccines. Additionally, she also supports strengthening government institution on immunization planning and budgeting at the subnational level. During COVID-19, she shifted focus to support the Ministry of Health and relevant subnational governments in designing and course correcting the approaches to accelerate the COVID-19 vaccination uptake. With support from Gavi under COVID-19 Vaccine Delivery Support (CDS) Early Access Window grant, she worked collaboratively with the Center for

Health Research at Universitas Indonesia to assess and understand the immediate need for the country to ramp up and reach its COVID-19 National Deployment and Vaccination Plan (NDVP) target by conducting vaccine acceptance survey to specific groups, including the elderly, general workers (informal sector), and groups of adolescents (12-17-years-old) and young-age (6-11-years-old) across Indonesia. This survey aims to produce recommendations on specific strategies to increase COVID-19 vaccination uptake (both partially and fully vaccinated status) based on the identified critical drivers of vaccine acceptance among the target population.

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**Holly Seale, PhD, MPH**, is an Associate Professor and a Social Scientist at the School of Population Health, University of New South Wales in Sydney, Australia, and the Deputy Chair for the Collaboration on Social Science and Immunisation. Over 17 years, Holly has led a research program focused on the sociological aspects of infectious diseases and infection prevention. Specifically, her research encompasses the individual, and organizational factors that influence acceptance with infection prevention strategies and community engagement. Her research spans pharmaceutical and non-pharmaceutical prevention strategies, includes qualitative and quantitative research approaches and consumers such as hospital healthcare workers, special at-risk groups (people with underlying illness, migrants/refugees), students and the general public. She works closely with local and state health departments to lobby for improved opportunities for vaccination, as well as to improve communication packages.

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**Saransh Sharma, MSc**, has over ten years' experience applying behavioral science and human-centered design in the global health and development sectors. In his role as Behavioral Science Lead at Final Mile, Saransh has managed complex research and design projects to drive behavior change at scale in South Asia, Africa and the United States. With a background in management and public policy, he's worked in diverse domains including maternal and child health, vaccine uptake, HIV prevention, financial inclusion, gender empowerment, sanitation, nutrition and tobacco cessation.

**Sneha Shashidhara, PhD**, is a senior research fellow at the Centre for Social and Behaviour Change, with a teaching position at the Psychology Department of Ashoka University. She is a cognitive neuroscientist by training working as a researcher studying mechanisms of the brain underlying higher-order cognition and decision making, with an interest in the interaction between cognition and social psychology. A Gates-Cambridge scholar, she did her PhD studying the multiple demand network in the brain at the University of Cambridge. This network is active in different demands, such as language, memory or math and handles many types of task difficulty.

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**Jaya Shreedhar, MD**, is both a health and development journalist and medical doctor based in Chennai, India. Experienced in print media, radio, television, and digital media, she specializes in topics like human rights and health, specifically HIV/AIDS and TB. From 2004-2008, Dr. Shreedhar led the Internews Local Voices project in Chennai, an HIV journalism training program which helped journalists understand the science and tell compelling stories to reduce stigma. She is a consultant for international institutions including WHO and UNICEF and teaches public health journalism at the Asian College of Journalism.

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**Linda Shuro, PhD**, is based in South Africa and is a Post-Doctoral fellow with the University of Western Cape, School of Public Health. She holds a PhD in Public Health with the same university and has over a decade experience in participatory methods and community engagement. Linda is currently coordinating evaluation activities for a multi-site community participatory-based project to achieve full childhood immunization coverage in Mozambique and Malawi. Her specific interests are in health promotion, qualitative research, and the use of frameworks to define implementation outcomes and for evidence translation. She has experience in teaching and student supervision in health promotion at undergraduate, postgraduate diploma and master's level and has been involved in coordinating various public health interventions and advocacy in Zimbabwe, South Africa and in Africa at community and national levels. She enjoys spending time with her family doing sports.

**Prem Singh, MBBS, MD**, is a senior public health physician with more than 20 years of progressive experience in immunization and child health programs. His expertise is in systems strengthening, polio eradication, cold chain and vaccine supply chain, immunization campaigns, new vaccine introduction, M&E, action research, demand generation, COVID-19 pandemic response and VPD & safety surveillance. Dr. Singh is currently Associate Director and leads the immunization portfolio for the Jhpiego India country office. Previously, as Senior Technical Advisor for COVID-19, he supported the COVID-19 vaccine cell at the Ministry of Health and Family Welfare (MoHFW) in India, providing technical and operational support to multi-sectoral coordination, planning, implementation and monitoring of the world's largest COVID-19 vaccination program. In addition to his Bachelor of Medicine and Bachelor of Surgery, Dr. Singh holds a Master's Degree in community health administration and post-graduate diploma in health administration. Dr Singh had experience of working in leading UN agencies like UNICEF, WHO, UNDP and other organizations in the field of Immunization, including Immunization Technical Support Unit, JSI, PHFI & PATH, and international experience of working in Bangladesh & Nigeria. His key areas of expertise include: Immunization, Vaccines & Biologicals; Vaccine Preventable Diseases & Vaccine Safety surveillance; Monitoring, Evaluation & Research; and Health System Strengthening.

**Yatender Singh, MSW**, is a seasoned development professional with more than two decades of experience in managing health, nutrition, and WASH projects and leading an NGO consortium. He has greatly contributed to designing and implementing social mobilization strategies for immunization campaigns for polio, Measles, Rubella, and WASH in some of the challenging parts of the world like Western Uttar Pradesh and northern Nigeria for the CORE Group Partners Project (CGPP) and UNICEF, respectively. Mentoring field teams and capacity building of NGO partners as well as government frontline workers are some of his areas of interest. Yatender has presented papers at various conferences like the Global Health Practitioners Conference of CORE Inc. in the USA. He has received a Master of Social Work and

a postgraduate diploma in Public Health.

**Laura Skrip, PhD**, is a quantitative epidemiologist with expertise in mathematical modeling and statistical analysis. She is an Associate Professor at the University of Liberia School of Public Health, where she teaches Biostatistics and Epidemiology and supports efforts to engage students in practicum and thesis opportunities. She is founding director of the Participatory Modeling and Analytics for Health (ParMAH) Lab, aimed at enhancing quantitative research capacity among public health researchers and practitioners. In this role, she developed and leads implementation of an R Coding and Biostatistics certificate program. As a researcher, it is her goal to collaboratively generate evidence that can guide public health decision-making in complex emergencies. She has worked extensively with social scientists, clinicians, basic science researchers, and communities to inform mathematical models for quantifying the potential impact of specifically behavior-focused tools and approaches, including risk communication and community engagement.

**Theresa Sommers, PhD, MPH**, is the Senior Manager of Research for the Vaccine Acceptance and Demand Initiative at the Sabin Vaccine Institute. Her background spans infectious disease programming and policy, including pandemic preparedness and response, within multilateral (WHO) and bilateral (US CDC) health organizations and on-the-ground qualitative health research in Sub Saharan Africa and the Southern US. She has also worked within academic institutions and the nonprofit sector to support infectious disease capacity building and research in LMICs. She has been adjunct faculty of multiple universities for over six years, teaching both undergraduate and graduate-level courses and is currently an affiliated Researcher for the Migration and Health Project Southern Africa within the African Centre for Migration and Society at Wits University (South Africa), as well as a Course Director in Research Ethics at the Department of Infectious Disease and Global Health at Tufts University, Cummings School of Veterinary Medicine. Theresa holds a PhD in Global Governance and Human Security (Global Health track) from the University of Massachusetts Boston, an MPH from Boston University,

and a BA from Wellesley College.

**Jacquelyn Ssanyu, MPH**, is a pharmacist, public health professional, and research fellow working with Makerere University School of Public Health. She has experience in designing and implementing social and behavior change communication interventions, as well as leading and coordinating research projects. Prior to joining Makerere, she gained experience in clinical and community pharmacy settings in Uganda and Tanzania. Jacquelyn holds a Bachelor's Degree in Pharmacy and a Master's Degree in Public Health. She is currently pursuing a PhD in Public Health jointly at Uppsala University, Sweden, and Makerere University, Uganda. Jacquelyn has actively worked on addressing vaccine misinformation. She has been involved in projects such as a Sabin Vaccine Institute-funded initiative, which applied dialogue-based social mobilization approaches to combat COVID-19 misinformation and vaccine hesitancy in rural Uganda. Additionally, she has contributed to the Cranky Uncle Project, which uses a mobile game involving cartoons and critical thinking to counteract misinformation. Currently, Jacquelyn is coordinating the Urban Thrive Project, which focuses on adapting high-impact practices in family planning, including social behavior change communication interventions. The project aims to enhance knowledge and understanding of family planning and strengthen family planning service delivery in urban areas of Eastern Uganda.

**Claire Thomas** is Co-Deputy Director of Minority Rights Group (International). Claire has a special interest in the power of disaggregated data (including data on ethnicity, language and religion) to improve policy and therefore increase inclusion of otherwise marginalized groups. She has consistently advocated for better investigations and understanding of how groups who face discrimination fare in accessing services. One methodology pioneered by MRG with her guidance, is the minority inclusion audit which reviews programs post hoc for whether they reached ethnic, religious and linguistic communities equally/according to levels of need and if so, how and if not, why not. Claire's work is not limited to vaccinations or even health in general but also covers access to all humanitarian and development services as there is

considerable common ground and learning in data capture and analysis and policy reform across service type boundaries.

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**Mavuto Thomas, MPH**, is an innovative and impact-driven leader in Health Promotion with over 19 years' field experience and training in strategic communications programming for promoting preventive health behaviors and demand creation for health services. He is Acting Deputy Director of Preventive Health Services responsible for Health Education Services in the Ministry of Health in Malawi. As part of his role as lead coordinator for health promotion and communication in the Ministry of Health, he oversees risk communication and community engagement activities on COVID-19 and other public health emergencies in Malawi as well as immunization. He is current Chairperson of the Public Health Risk Communication and Community Engagement Community of Practice for Africa (PH-RCCE-CoPA) steering committee formed by Africa CDC and the WHO. He holds a Master of Public Health and Bachelor of Science in Environmental Health. He has attended and presented on a various national and international conferences on social and behavior change communications (SBCC) and health promotion.

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**Angus Thomson, PhD**, is Adjunct Clinical Professor, Department of Communication Studies & Global Health Communication Center, Indiana University School of Liberal Arts at IUPUI. He is Principal of Irimi, an organization focused on building public trust in public health programs, with a particular focus on immunization. Angus is also Adjunct Clinical Professor, Department of Communication Studies & Global Health Communication Center, Indiana University School of Liberal Arts at IUPUI, USA. He was consultant Senior Social Scientist for the Demand for Immunization team at UNICEF HQ, and Dr. Thomson has conceived and helped build a number of global vaccine demand programs including the Vaccination Demand Observatory, the International Pediatrics Association Vaccine Trust Project, and an international collaboration which validated the use of context-driven vaccine messaging on online platforms. He co-authored the Vaccine Misinformation Management Field Guide (12,000+ downloads) and the

Vaccine Messaging Guide, and previously led the Digital Information Environment workstream of the Vaccination Demand Hub. Angus also developed the AIMS mixed-learning behavior-centered IPC training program for Healthcare Professionals with Prof. John Parrish-Sprowl. He is a technical expert on vaccine demand and uptake and frequently speaks with the media, including CNN, the BBC and El Pais, on the subject.

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**Frisca Tobing, MAAPD**, has extensive experience in development both in research and managing projects. Currently, she is one of the Lead Researchers at EMPATIKA. She has also been involved in various mixed-methods studies across Indonesia and is skilled in employing qualitative and participatory research studies. Some of her recent works have focused on people's behavior related to COVID-19 vaccine and preventive measures; lead poisoning and pollution; and accessing malaria services. Frisca holds a Master's Degree in Applied Anthropology and Participatory Development from Australia National University. Her prior work includes research related to gender, forests, and managing research projects.

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**Carla Toko, MPH**, has worked on multiple aspects of immunization programs, including community mobilization efforts to increase demand for immunization services, advocacy for sustainable domestic financing, and technical support for surveillance activities of vaccine-preventable diseases. In 2020, Carla joined VillageReach DRC as Advocacy & Communications Manager. She previously was at SANRU Asbl, a local NGO in DRC, as a behavior change communication specialist where her work mainly focused on community mobilization and community-based disease surveillance through partnerships with local organizations, covering health topics such as immunization and maternal newborn child adolescent health (MNCAH). She also oversaw SANRU's response in providing a hotline during the 2018 Ebola outbreak in the Equateur province in DRC. Prior to that, Carla was a Polio C4D consultant in Cote d' Ivoire.

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**Doreen Tuhebwe, MPH, PhDc**, is a Research Fellow at Makerere University School of Public Health (MakSPH).

She holds a Bachelor's Degree in Environmental Health Sciences, and a Master of Public Health from Makerere University. She has participated and led in teaching, examination, research, and community service at MakSPH. For five years (2015-2020) she steered the MakSPH graduate students' mentorship program-a platform aimed at supporting students as they journey through graduate training. She also has experience in implementation of research and service projects, writing research protocols, monitoring field work/ experiments and conducting ethnography studies with over 20 publications in peer-reviewed journals. Doreen has written grants and led her own research through small grants programs. She is a founder member of Women in Global Health- Uganda Chapter and the MakSPH-Master of Public Health Alumni Association. Doreen has interest in global health, adolescent reproductive health and autonomy, disease control including HIV/AIDS and neglected tropical diseases and models of service delivery for vulnerable populations in urban poor settings, cross borders, and fishing communities. She is currently pursuing a PhD in Public Health-Global Health at San Diego State University, USA.

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**Dr. Chizoba Wonodi, DrPH**, is a public health physician with over twenty-seven years' research and program experience in Africa, Asia and America. She serves as the Nigeria Country Director at the International Vaccine Access Centre (IVAC). In this role, she leads an important portfolio of work on technical assistance, implementation research and policy advocacy to improve immunization service delivery and primary health care systems in the country. She is currently the principal investigator for a Bill and Melinda Gates Foundation-funded project to improve immunization uptake by sending SMS messages to inform, educate and remind caregivers of their child's vaccinations. Implemented as a cluster randomized trial, this intervention – the Immunization Reminder and Information SMS System – is intentionally large in scope to demonstrate how innovations like SMS reminders can be taken to scale. In keeping with her focus on public health practice, she founded the Women Advocates for Vaccine Access (WAVA), a coalition of Civil Society Organizations in Nigeria advocating for increased uptake of vaccines and for sustainable financing of immunization programs. WAVA serves as

the secretariat for the national platform, the Expanded Civil Society Initiative for Immunization (ECSII) in Nigeria. At the global level, she holds the vice chair position of the Gavi CSO Platform Steering Committee, a body that coordinates Civil Societies active in immunization.

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**Tahir Yousafzai, PhD, MPH**, is working as an Assistant Professor at the Department of Pediatrics and Child Health, Aga Khan University in Karachi, Pakistan. Tahir has more than 10 years of research experience in Pakistan, the Middle East and Australia. His research interests range from surveillance of vaccine-preventable diseases among children, to impact evaluation of newly introduced pediatric vaccines and vaccine hesitancy. He recently completed a funded study exploring the misinformation regarding the COVID-19 pandemic and COVID-19 vaccines and used co-design methodology to develop contextual strategies to address misinformation among the marginalized communities living in peri-urban settlements in Karachi. In addition, Tahir is a co-investigator on a Coalition for Epidemic Preparedness Innovations (CEPI) funded multicenter phase 2 trial evaluating the immunogenicity and safety of various COVID-19 vaccines administered through a mix-and-match strategy in Pakistan. He is also a co-Principal Investigator for a Gavi-funded project to evaluate the impact of a typhoid conjugate vaccine among children in several cities within Pakistan.

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**Raluca Zaharia** is a communication specialist with 27 years of experience. For the past 18 years she has been working with UNICEF in Romania, specializing in social and behavior change (SBC). She is a graduate of the communication for development program of Ohio University and UNICEF. She has worked both in local, regional and global development programs and in humanitarian interventions. She has developed and implemented SBC programs addressing violence against children, risk behaviors in adolescents and social cohesion. In the past seven years, her work has focused on building and maintaining demand for immunization, communicating with caregivers and building the capacity of the health system to create a favorable environment to increase vaccine acceptance.



VACCINATION ACCEPTANCE  
RESEARCH NETWORK

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