

Building Resilient Immunization Programs, Reducing Vaccination Inequities

Introduction

Public health emergencies are triggered by natural disasters, sociopolitical conflicts, or a disease pandemic, leading to a breakdown of health systems. In such conditions, vaccination services are frequently disrupted. Therefore, countries should be prepared to respond to public health threats considering prompt vaccine delivery as a significant emergency response component, especially vulnerable populations, to vaccine-preventable diseases (VPDs). The need for emergency vaccination campaigns to control VPD outbreaks may emerge to reduce the possibility of international spread and thereby enhance global health security.

In November 2020, WHO and UNICEF warned that millions of children are at a high risk of polio and measles worldwide as immunization services were disrupted due to the COVID-19 pandemic. With this pandemic, health resources shifted to its direct response by supporting healthcare facilities to manage COVID-19 patients and avoid surges of hospitalized cases. As UN agencies reported; immunization coverage rates in some countries have fallen by almost 50%; due to inability to access health services as an outcome of lockdown and transport disruptions in addition to the fear of contracting COVID-19. The decreased vaccination coverage for VPDs could cause parallel outbreaks with COVID-19 and further strain the health system. Immunization systems need to benefit from existing technology and utilize eventual COVID-19 vaccine distribution to fill the gaps in routine immunization caused by early stay-at-home orders and lockdowns. At the same time, maintains physical distancing measures, personal protective equipment, and acceptable disinfecting practices for vaccination clinics

and pharmacies providing the vaccines.

EMPHNET has been actively supporting EMR countries in strengthening their immunization programs. Continuous and uninterrupted immunization is a crucial area requiring special consideration, especially during public health emergencies. As part of essential health service, immunization is an effective method that protects communities' health and reduces disease burden.

Health systems are described as resilient when they can identify potential health risks and are equipped with strengths and strategies to respond to a broad range of health challenges. Prioritizing immunization services as an integral part of resilient health systems reduces human and economic losses associated with public health emergencies.

Considering the need to build resilient immunization programs and reduce vaccination inequities, EMPHNET has launched its Webinar on January 26, 2021, from 17:00 – 18:30 Jordan local time (UTC +3), titled *"Building Resilient Immunization Programs, Reducing Vaccination Inequities"*. In doing so, EMPHNET wanted to savor the digital world's privilege at a critical time and use that to close the growing gap in coordination, experience sharing, capacity and relationship building.

About EMPHNET

EMPHNET is a regional network that was founded in 2009 with the focus on strengthening Public Health Systems in the Eastern Mediterranean Region (EMR). EMPHNET works in partnership with Ministries of Health, non-government organizations, international agencies, private sector, and other public health institutions in the region and globally to promote public health and applied epidemiology. In 2015, EMPHNET created Global Health Development (GHD) as a regional initiative to advance its work in the EMR and support countries strengthen their health systems to respond to public health challenges and threats.

Webinar Specifics

The various crises and emergencies the world have witnessed over the years proved how critical it is for health systems to be prepared for challenges before they occur. Rarely these crises leave health systems without long-term effects, altering the global population's overall disease burden. However, resilient health systems can recover from emergencies at higher speed, without disrupting the delivery of the core health services and with better performance than the pre-emergency phase. For immunization systems to be resilient, universal health coverage must be promoted within health systems during regular times. Universal health coverage ensures that all vulnerable individuals are reached with essential immunization services. Universal health coverage in immunization services during the pre-emergency phase reduces adverse outcomes of the emergency, and therefore, recovery with catch-up vaccines becomes easier.

Webinar Objectives

"Building Resilient Immunization Programs, Reducing Vaccination Inequities" Webinar conducted with the following focus:

- Exchanging knowledge and providing answers to immunization programs' emergent problems due to the COVID-19 pandemic and recurrent emergencies in the region.
- Proposing feasible, sustainable, and innovative solutions for more equitable resilient immunization programs within responsive national health systems.
- Discussing the potential roles of different partners and stakeholders in strengthening immunization programs and enhancing emergency preparedness.

Webinar Speakers

In seeking to bring experts opinion and experience in discussing resilient immunization programs - including data-driven decisions based on risk assessments, effective communication, and innovative/digital solutions – and elaborating on the process of reaching zero-dose children in immunization, the Webinar hosted the following experts:

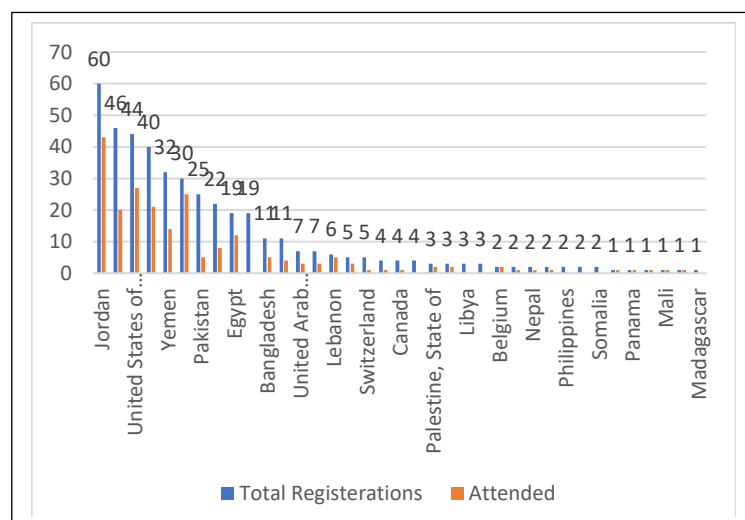
- **Dr. Dastgir Nazary**
Manager of the National Expanded Programs on Immunization, Afghanistan
- **Dr. Frank Mahoney**
Infectious Disease Specialist, Center of Disease Control (US CDC/ IFRC)
- **Dr. Stephen Sosler**
Epidemiologist and Immunization Technical Advisor in Gavi

The Webinar was facilitated by:

Dr. Magid Al-Gunaid - Public Health Director, GHD
EMPHNET – Amman, Jordan

Webinar Attendees

Registration was open one week prior to the Webinar and announced through EMPHNET's communication and networking channels. In total, 444 registered to attend, 48% (n= 213) attended the webinar. The following graph displays the distribution of registered and attendees by countries.



Overview of Presentations

The Webinar was conducted in English and included three presentations (15 minutes each), on different aspects and issues related to challenges for maintaining immunization during emergencies and the impact of these emergencies on immunization programs. The presentations focused on general notations from conflict areas worldwide while bringing in-country experience related to Afghanistan's successes. Followed a discussion session below is a brief of these presentations. The Webinar started and ended on scheduled time, with a duration of 1.5 hours.

Webinar Introduction

Dr Magid Al Gunaïd

As the webinar facilitator, Dr Magid briefed on emergencies globally and in the EMR and how these emergencies have proven the health systems' fragility. Dr Magid also explained resilient health systems that can identify potential health risks and the importance to equip them with strengths and strategies that enable them to respond to a diverse and broad range of health challenges. Dr. Magid also highlighted the Webinar's importance in explaining how resilient health systems can better adapt their health care delivery to respond to threats and maintain and sometimes improve their performance. For immunization systems to be resilient, universal health coverage must be promoted as it ensures that all vulnerable individuals are reached and protected with essential immunization services, enabling their self-seeking behavior towards getting vaccinated. Together, resilient health systems are integrated and coordinated with different actors and stakeholders to create solutions for action. Resilient health systems are also self-regulated, with the ability to rapidly isolate threats while maintaining critical health services delivery, he said.

Dr Magid presented the guest speakers, the Webinar's focus, and directed the attendees to send their questions to the question platform. Before each presentation, Dr Magid presented a biography of each guest speaker.

The Impact of the Recurrent Emergencies on Immunization Programs

Dr Frank Mahoney

Dr Mahoney started by showing the global update on EPI's status and how the critical goal of the Immunization agenda 2030 of making vaccination available to everyone showed a plateau in the last decade. With 20 million children not or under-vaccinated, half of them are in the African region, stressing the need for vaccination priority for children in fragile settings. Then Dr. Mahoney explained the context of immunization service delivery in conflict/fragile settings. Dr. Mahoney showed the importance of reaching zero-dose children who mainly found in conflict regions. One example he shared was that the low coverage in immunization led to measles' resurge in 2018 in the AFR region and the surge in Polio in Afghanistan and Pakistan. He also showed the impact of conflict on health services as DTP 3 coverage decreased by 60% in conflict-affected countries such as Iraq, Syria, and Ukraine.

Dr. Mahoney highlighted the variation in vaccination coverage in countries with protracted/intermittent crisis, Afghanistan, Liberia, and Somalia from 2000 to 2019, where he said that conflict settings are increasing in frequency as the number of civil conflicts has doubled since 2001 and are more disruptive as globally, the highest number of refugees was recorded in 2016 (65.6 million people). Dr. Mahoney then highlighted the key challenges to delivering immunization services in Fragile Conflict-affected and Vulnerable settings including insecurity, availability of trained staff, loss of infrastructure and supply chain, mistrust between service providers, and the communities they serve, population displacement and migration, data quality and addressing unmet health needs.

Dr Mahoney then moved to explain two case studies. One regarding RI strengthening in Central African Republic is Microplanning, including health facility-based RED, district microplanning, and community volunteers assisting with vaccination sessions. He also highlighted how this microplanning helped solve denominator uncertainty where they used data

denominators to increase immunization services. And the other case study Dr. Mahoney presented was on community engagement strategies for Ebola in DRC, listening to communities and adapting the response. This study used qualitative analysis to explore vaccine hesitancy within the community. The study analysis showed some misunderstanding and misinformation on the vaccines about side effects, eligibility, and strategy, besides the distrust in vaccines due to limited knowledge about the vaccine.

Dr. Mahoney emphasized some key strategies to improve coverage, where he highlighted a Resilient health system as a priority. He stressed that health systems should be flexible enough to provide services during crises such as the use of national health plans to support integrated package of essential services, engagement of trusted providers from humanitarian sector and CSOs, the use of recovery plans as part of emergency plans of action and urban centres to have the capacity to provide services for IDPs. He also highlighted some interventional tools such as the reliable census for functioning health facilities including reporting structures and usage of tools such as Health Resource Availability Monitoring System (HeRAMS) and analyzed vaccination coverage. Some critical service delivery interventions include flexible age, schedule and dosing options based on the local context, covering choice of antigens and innovative vaccine and delivery and cold chain management, and the use of mobile technologies to support surveillance, M&E, communication, and demand promotion.

Dr. Mahoney concluded with some key Innovations to support vaccination in conflict settings such as the usage of satellite images to estimate population size and community engagement strategies to address mistrust and vaccine hesitancy.

The Country Challenges and Success in Maintaining Immunization in Emergencies, Afghanistan

Dr Dastgir Nazary

Dr Nazary started by presenting the effect of emergencies on immunization programs in the past five

years (2016-2020). He showed how the Measles outbreak mainly at the low vaccinated children was in areas. Also, he represented polio outbreaks, where the number of confirmed cases was the highest in 2020. Dr. Nazary also showed the implications of these emergencies on immunization programs in Afghanistan such as the limitation of access to children in the country, the ban on house-to-house vaccination that was imposed in May 2018 that even became more stringent in April 2019 with its imposition everywhere. This led to no vaccination campaigns from April to July 2019. The performance of fixed and outreach sessions was also affected during the lockdown period due to the Covid-19 pandemic. The population immunity is declining due to inability to implement house to house campaigns in a significant part of the country, leading to inconsistent access to almost 45% of the target population aged less than five years. Due to COVID-19 pandemic, Pakistan has closed its borders and the specimen's shipment to lab halted.

Dr. Nazary also highlighted some lessons learned from these immunization programs such as communities informed about provision of services during COVID-19, considering prevention measurements, provision of some PPE, at minimum enough gloves and facemasks, would be desirable, whether disposable or reusable as well as sanitizers and soap. They also started working on the awareness campaign through TV, Radio, and social media (Facebook) on EPI services. Furthermore, they used the community-based surveillance network for demand generation in the community regarding COVID-19 stressing the childhood immunization program's importance. Video conference and teleconference with the regions for VPD surveillance, especially using AFP surveillance network. Multi-Antigen Accelerated Campaign (MAC) as the integrated package of service provision. Maintained the availability of vaccines and non-vaccines supply with good cold chain maintenance in the health facilities amid Covid-19 outbreak and the presence of vaccinators in all the visited HFs, he said.

Dr. Nazary then mentioned some challenges for the immunization programs, such as the very low political

commitment at various levels for measles SIAs where a small team is working for measles at the national level and no specific person for VPDs surveillance province level. Campaigns are not regular once in 3 years and need more skilful staff. Micro-planning is done once a year with many limitations such as the vaccinators do micro-planning for RI. Measles SIAs need more qualified staff as there are no additional staff for measles at the province level. Mobile and outreach activities are not adequately implemented under RI by the BPHS implementers. He said weak supportive supervision and monitoring by the central and provincial team and restriction of movement to provinces for monitoring and supervision.

Reaching zero dose children in fragile and emergency settings: exploring new partnerships

Dr Stephen Sosler

Dr Sosler started by describing how immunization reaches more households, including the poorest, compared to other essential interventions. He also showed stagnated coverage in Gavi supported fragile countries and risk of VPDs outbreaks heightened due to disruption in RI. He then highlighted the Alliance's priority for 2021-2025 is to reach zero-dose children with immunization, ensure they receive a full schedule of vaccines and build a platform that can deliver other public health services (leaving no one behind). Dr Sosler explained the critical shifts from Gavi 4.0 to 5.0, reaching zero-dose children and missed communities as a starting point for country dialogue in planning for or reprogramming Gavi investments. A single theory of change at the country level for how all Gavi support alliances to identify and reach zero-dose children. A greater focus on demand, community engagement and overcoming gender barriers as crucial enablers of reaching zero-dose children. A more deliberate approach to engaging a broader set of partners including CSO and humanitarian actors and more purposeful advocacy to secure political commitment to prioritize zero dose communities. Zero dose child is a marker of acute inequity & poverty, he said.

Dr. Sosley explained how to sustainably reach zero dose children and missed communities through new mindsets, approaches and partnerships. Understanding of demand and supply-side barriers of marginalized communities and refugees. Operational experience, data and innovative tools with differentiated, tailored strategies depending on settings and obstacles faced. Working with and through local communities and CSOs and using evidence for political attention and resources by strengthening voice and advocacy for inclusion of missed communities in policies and programs. Integration of immunization within humanitarian priorities and plans while addressing vaccine hesitancy through community-based approaches and building local capacities and resilience.

Flexible policies and nimble processes are vital for rapid response in fragile and conflict settings. COVID-19 is likely to exacerbate inequities, including the increasing number of zero dose children and the risk of vaccine-preventable disease outbreaks heightened due to disruption in routine services. Almost 80 million children under age 1 at increased risk of contracting vaccine-preventable diseases, he said. Dr. Sosler also explained the need for creating strong and visible commitment from the alliances on the importance of engagement with humanitarian partners for these settings. In addition to enabling the operational environment that incentivizes these new partnerships and facilitates new partners' engagement at the country level. He also highlighted the need for continuing global advocacy on missed populations, especially in Covid-19 pandemic and vaccination efforts.

Click to [link](#) listen to the recorded webinar.

Discussion

The Webinar concluded with Dr Magid facilitating the questions and answers session. After filtering the questions, the following questions were presented and answered by the relevant speaker.

Q1. How do you assess the role of global aid effectiveness in supporting immunization during the COVID-19 crisis?

[Answer: Dr Frank Mahoney](#)

The community level has responded to the global crises; we have recognized a negative impact of COVID-19 on immunization services. GAVI provided some flexibility in the funding and addressed those issues that many partners are addressing those issues to support. I think the impact was quite variable, most countries have experienced an acute drop in coverage from the beginning of the pandemic (March and April last year) and were gradually recovering. I have not seen precise data, but maybe Stephen can comment on that. Most of the coverage impact is a mix of both vaccine hesitancy and people not wanting to worry about COVID-19. People going to the health facility and the outreach teams stopped going to the field because of the lockdown measures, but I think those issues are gradually being addressed.

[Answer: Dr. Steven Sosler](#)

I have seen some data and statistics from different regions. And first of all, it does seem reasonably country-specific, but there is also appeared to be some pretty broad trends. One of the trends that seems interesting in that when you do compare, I guess it speaks to a little bit through when you see downtrends in immunization, and you compare those against some of the other primary health care services that are often delivered at the same time and work in the same clinics. Immunization has not done as poorly as some other primary health care interventions, which is somewhat encouraging if you are only wearing the immunization hat. But if you are thinking about primary health care broader issues, it also continues to speak to the need to look at integrated delivery of services to consider how we can determine these platforms not just immunization itself like the system to deliver a fuller complement of health services.

Q2. Increasing the number of CVDPs outbreaks globally and even in Afghanistan, the number is much higher, unfortunately in the country. Some of the lessons learned about the engagement of surveillance staff, particularly the AFP staff, for the response of COVID-19 that have been affected, can you elaborate more about Afghanistan's experience and use some of the lessons learnt for plans and strategies?

[Answer: Dr Dastagir Nazary](#)

The first CVDP case was found on the eastern side of Afghanistan and linked genetically to another KPK Pakistan case. But as I mentioned in my presentation, the entire target population fetal immunity was there because, in 2016, we ruled out polio type 2 from our program, so that is why. It widely went across parts of the country, and we experienced many positive environmental samples for type 2 but unfortunately in the other side of the country, through having campaigns and coverage of routine immunization and IP we managed to stop it, so there was no circulation. But unfortunately, there is low coverage in the southern side of the country, so it is still there and its 255 cases. The use of surveillance for COVID-19 case finding since we have a vast network for polio eradication and surveillance, we tried to use them at the beginning of the country's pandemic. We feel it was good to do the integrated work, but simultaneously, while we are thinking of eradication, we need to focus on the main indicators. During those initial three months where the entire polio network was busy with the COVID-19, somehow their

focus deviated from the original work and although very soon we could revitalize and redevelop those SOPs and send it to them. While working for the COVID-19 vaccine, we must keep the focus on polio, but it was an experience that without proper SOPs and proper documentation for the field people to look at the two different activities, we should not practice in the future. That was the biggest lesson.

Q3. There is a focus by GAVI on the zero-dose, do you have any tools or strategies to share for how to identify zero-dose children living in fragile/emergency settings? And if these tools/methods can be carried out by local health staff?

Answer: Dr. Steven Sosler

Yes, more explicit tools shared can be used to identify these individuals in communities at the local level. This is the most focus of the GAVI strategy as we initiated 2021. our staff and partner staff are very much involved in other activities to COVID-19. Either in direct response to the pandemic or preparing for the eventual rollout of the vaccines. And so, we are in discussion with partners to think about how to reprogram some of these activities. As for the tools that can be used at the country level, I can put other people working on that in touch with the person asking the question.

Q4. Can you elaborate on the chronic emergencies in Afghanistan and also for the current outbreaks for polio and its elevated numbers, as the year 2020 was the highest over the last few years? And the relationship between different emergencies? And also if there is any new adaptation for long-term or change in these strategies or such emergencies?

Answer: Dr Dastagir Nazary

The most important thing is what we have experienced in the country while the pandemic started, we had two to three emergency centres, one in the ministry of public health. We found out that there was one emergency for what we call the CCC where they are basically as we are in a state of war in Afghanistan, so that was responsible for the emergency cases of something like bombs and things like that so there was a large network working under that department. And then we had the emergency for polio eradication. So, what we have experienced is if we can jointly make one comprehensive centre for all such emergencies then we can make our staff and our capacity building to be done in a way that any emergency case come into the picture, they can then focus on their work. And at the same time, they can collaborate and understand how to respond to those emergencies, which unfortunately was not there in Afghanistan. After the first wave of COVID-19 in the country, what we have done within Afghanistan's government is that the entire emergency centres have come down under one umbrella, so all the emergency centres in Afghanistan are now in the EUC building (the emergency centre for polio eradication). People are working under the same umbrella, and there is one focal person responsible for managing all these departments together. So that is something we have experienced in the country, and we tried to fix it after the first wave so that the second wave we revitalize our activities for polio and routine immunization and so the second wave was much better than the first wave.

Q5. Several questions around the misinformation about the infodemic and their effect on emergency settings? How it affects the utilization of vaccines? And what are the current strategies and the current work of different organizations specialized in this area?

Answer: Frank Mahoney

I think this is a big problem; we all recognize a mistrust that negatively impacts. For example, a country like the Philippines had several measles outbreaks due to vaccine hesitancy and people stopped bringing their children for immunization and shortly after one or two years, they were having massive measles outbreaks. So, I think it is an

issue worldwide, and a lot needs to be done to combat the misinformation about vaccines. I think the community listening approach is taking off and there is a collective effort being done between UNICEF and other parts of the WHO and other partners to use this community listening approach to identify this misinformation and quickly respond to it rapidly. When we worked in Nigeria, we had much misinformation about polio, we quickly developed a rapid response team like you would for an outbreak, but it responded to rumors and misinformation. And the government had to build the capacity for a prompt response to address these issues of misinformation. We often use the same tools that whoever was spreading this information, if it were Bluetooth or things like that, we would combat it with the same mechanisms used to disseminate the misinformation. It is essential to engage community leaders and trusted people to address the misinformation. communities respect their opinion. They can help in delivering messages. Very often these are the formal health sector doctors and trusted medical providers that the community will listen to.

Conclusion and take away

At the end of the Webinar, Dr. Magid highlighted some key takeaways from the session:

- A large number of zero-dose/under-vaccinated children are residing in fragile/conflict settings.
- Successful models reach these communities, including resilient systems, engagement of trusted partners, and innovative service delivery strategies.
- Our region experience showed many best practices (Afghanistan), for example: using community-based surveillance network for demand generation,
- utilizing the available technology to enhance communication and timely reporting.
- Strong government ownership and commitments, investment in building national capacity and engagement of all national and sub-national teams for preparedness and response, are essential.
- At the global level, there is a need to continue global advocacy on missed populations, including in the context of COVID-19 pandemic and vaccination efforts. Besides creating a visible and robust commitment to the importance of engagement with humanitarian partners for these settings



EMPHNET
The Eastern Mediterranean
Public Health Network

EMPHNET WEBi Series

Building Resilient Immunization Programs, Reducing Vaccination Inequities

Tuesday, January 26, 2021

17:00 to 18:30, Jordan Local Time (UTC+2)

Speakers



Dr. Frank Mahoney
Infectious Disease Epidemiologist,
US CDC/IFRC.



Dr. Dastagir Nazary
National EPI Manager,
Afghanistan.



Dr. Stephen Sosler
Epidemiologist and
Immunization Senior
Technical Advisor for Gavi.

Facilitator



Dr. Magid Al-Gunaid
Public Health Programs
Director at GHD|EMPHNET.

The webinar will focus on

1. Exchanging knowledge and providing answers to immunization programs' emergent problems due to the COVID-19 pandemic and recurrent emergencies in the region.
2. Proposing feasible, sustainable, and innovative solutions for more equitable resilient immunization programs within responsive national health systems.
3. Discussing the potential roles of different partners and stakeholders in strengthening immunization programs and enhancing emergency preparedness.



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Biographies of Guest Speakers and Facilitator

Dr. Frank Mahoney

Dr. Mahoney is an infectious disease epidemiologist seconded by the US Centers for Disease Control and Prevention to the International Federation of Red Cross and Red Crescent Societies. Prior to his current assignment, he worked on polio eradication in Nigeria and was the CDC team lead for Ebola response in Nigeria and Liberia. Between 2007 and 2011, Dr. Mahoney was head of the CDC office in Indonesia and worked on the response to avian influenza. He also worked for 10 years in the Middle East Region at the Regional Office of WHO and with the US Naval Medical Research Unit No. 3 in Cairo. He leads the WHO working group for outbreak response and vaccination of children who live in fragile contexts and is a member of the Gavi CSO steering committee. Dr. Mahoney is an author of numerous scientific publications and book chapters and has worked with FETP programs in many countries throughout his career.

Dr. Dastagir Nazary

Dr. Nazary is currently the Director of the National Expanded Program on Immunization at the Ministry of Public Health, Afghanistan. In this role, Dr. Nazary works with partners to formulate national EPI policies, strategies, operational plans, and short-term and long-term EPI plans. He also works to increase immunization efforts and routine EPI coverage in Afghanistan. Dr. Nazary is actively involved in planning, coordinating, integrating, and implementing AFP, AEFI, and surveillance of other vaccine-preventable diseases and outbreak response. Dr.

Nazary also worked as a Senior Advisor for the National Emergency Operation Center, MOPH, where he worked on a national emergency action plan for polio eradication. Prior to that, he worked as a Senior Advisor to the Minister of Public Health at MOPH. Dr. Nazary has a Post-Graduation Diploma in Clinical Research from Moulana Azad University, Delhi, India, and a Master of Hospital Administration from Moulana Azad University, Jodhpur, India.

Dr. Stephen Sosler

Dr. Sosler is an epidemiologist and Immunization Senior Technical Advisor for Gavi. Dr. Sosler provides guidance, expertise, and leadership on a range of immunization programs and vaccine issues in this role. With the emergence of SARS-CoV-2 and the COVID-19 pandemic, he is also engaged in the COVAX vaccines pillar's efforts. Before joining Gavi in 2012, Dr. Sosler held key positions at the US Centers for Disease Control and Prevention, seconded to the World Health Organization as the Deputy Project Manager for India's National Polio Surveillance Project, coordinating immunization strengthening, measles control, and new vaccine introduction activities. Prior to India, he was seconded as a CDC Epidemiologist to the WHO Central Africa Inter-country Support Team in Libreville, Gabon, where he served as the Accelerated Disease Control Officer. Dr. Sosler has a PhD and Master of Public Health in International Health-Epidemiology from the Tulane University School of Public Health and Tropical Medicine.