

**Webinar Brief**

August 11, 2020

WEBi: PH-04 • 18082020

**COVID-19, Public Hesitancy, and Provider Reluctance,  
Impact on Immunization Services and Mitigation Measures****Introduction**

The public health success of immunization has meant that new generations of parents have little direct experience of the risks of many vaccine preventable diseases (VPDs) for the health of their children. Although vaccination remains a well-accepted social norm worldwide, immunization programs face many context-related logistical, economic, and sociocultural challenges that contribute to sub-optimal coverage. Health systems sometimes struggle to effectively engage caregivers and communities, leading to weak demand and acceptance of vaccination, inequities in coverage and stagnating or declining coverage rates. Numerous root causes for sub-optimal vaccination includes access, affordability, awareness, and acceptance.

Vaccine uptake is influenced by what people think, social processes and how we direct behavior change. Many factors- including misinformation spread on social media; decreased trust in institutions including government, science, and industry; and weaknesses within health systems—have emerged to diminish confidence among some populations.

Globally, COVID-19 has disrupted immunization systems and led to closure of health facilities, limited vaccine supply, and revealed other challenges to the immunization system. Moreover, caregivers and healthcare workers in many countries have reported a fear of visiting health facilities because of the possible risk of being infected with COVID-19.

The risk of VPDs is gradually increasing with the delay in administering vaccinations to eligible children. We will likely face outbreaks of VPD if we keep routine immunization (RI) halted for weeks together. There is a need to highlight this hidden problem, which has the potential to further undermine our already challenged health and healthcare situation in the EMR. Ranging from vaccine hesitancy to operationalization of services,

various dimensions of immunization service delivery and the needs of communities need to be examined from the perspective of the COVID-19 pandemic.

As a continuation to the “Immunization” specific webinars, conducted in partnership with US CDC and in collaboration with other stakeholders (UNICEF, WHO, BMGF, Gavi, and others), this webinar aimed to contribute to supporting countries from the Region in adopting suitable evidence based strategies across the various COVID-19 response phases; hence, minimize the impact on achievements of national immunization programs while respecting COVID-19 transmission reduction instructions and maintaining population trust and demand.

EMPHNET conducted this Webinar in collaboration with US, CDC and with participation of UNICEF/MENARO on August 11, 2020, from 17:00 – 18:30 Jordan local time (UTC +3), titled “COVID-19 generated public hesitancy and provider reluctance, impact on immunization services and mitigation measures” to contribute to experience sharing and capacity building efforts in the region and beyond.

**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

WHO defines vaccine hesitancy as a “delay in acceptance or refusal of vaccines despite availability of vaccination services.”

This Webinar provides a convening platform of expertise at the global, regional, and country levels for knowledge exchange towards addressing public vaccination hesitancy and provider reluctance in the context of COVID 19.

## Webinar Objectives

*This webinar focused on the following objectives:*

- To shed light on the main determinants of current challenges affecting demand for immunization through diverse learnings from country experiences.
- To discuss appropriate strategies for regaining population trust and confidence in the immunization programs.
- To propose applicable, sustainable, and innovative solutions to maintain and improve HCWs commitment

## Webinar Speakers

Seeking to bring experts’ opinions and experiences in discussing the enablers of transitioning out of COVID-19 restrictions - including data-driven decisions based on risk assessments, effective communication, and innovative/digital solutions – and elaborating on the process of weighing the advantages and disadvantages of easing COVID-19 restrictions, the Webinar hosted the following experts:

### **Neetu Abad, PhD- Global Presenter**

*Behavioral scientist in the Global Immunization Division at US CDC*

### **Dr. Daniel Ngemera, Senior Immunization Specialist, UNICEF Presenter**

*Senior Immunization Specialist for the Middle East and North Africa Regional Office (MENARO),*

### **Dr. Kamel Abusal, National EPI Manager, Jordan Presenter**

*National EPI Manager in Jordan*

### **Elisabeth Wilhelm, MA- CDC Facilitator**

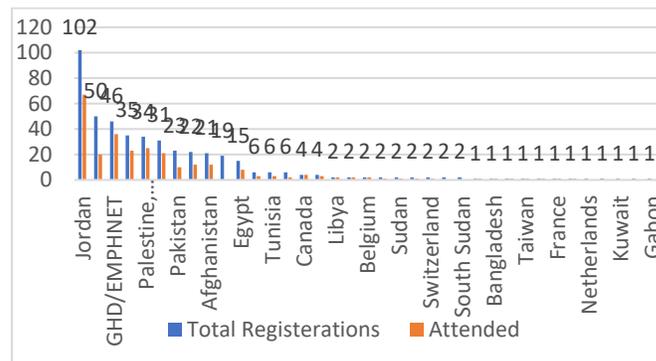
*Health Communications Specialist in the US CDC Global Immunization Division.*

### **Dr. Magid Al-Gunaid, Facilitator**

*Director of Public Health Programs, Global Health Development (GHD)*

## Webinar Attendees

Registration was open two weeks prior to the webinar and was announced through EMPHNET’s communication and networking channels. In total, 456 registered to attend, 58% (n= 266) 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 (20-15 minutes each). Following introductions by Dr. Magid Al-Gunaid, the first presentation was delivered by Dr. Neetu Abad providing a Global update on the Impact of COVID-19 on Demand for Immunizations and potential solutions. The second presentation shared the regional update and was presented by Dr Daniel Ngemera, then followed by Dr Kamel Abusal presenting Jordan experience. The webinar started and ended on scheduled time, with a total duration of 1.5 hours.

## Webinar Introduction

*Dr Magid Al-Gunaid*

Dr. Al-Gunaid provided overall facilitation and introduced the webinar mentioning the different factors influencing immunization uptake and highlighting that vaccine hesitancy is not new at the global level or within the region; immunization is facing a growing challenge of confidence. Parents and

caregivers in many countries have doubts about the safety or value of vaccination and this has resulted in vaccine rejection and delays. Hesitancy is not limited to the clients but some of the providers also have the same community beliefs. He also reflected on the impact of COVID-19 on immunization and the underlying reasons.

Dr. Al-Gunaid presented the guest speakers and explained the focus of the webinar, mentioning that the webinar would provide an interactive platform for exploring participant views through polling questions, whereby he directed the attendees to send their questions to the question platform.

## Impact of COVID-19 on Demand for Immunizations & Potential Solutions: Global Update

*Dr Neetu Abad*

Dr Abad started her presentation by explaining the vaccination behavior continuum model, portraying the range of attitudes towards vaccination from demand to refusal of all vaccines, with most people falling somewhere in the middle. She then explained the factors that influence vaccine-related decision making which can be service delivery and vaccine specific or related to individuals and groups, or due social context and larger policy issues.

She further explained that vaccine confidence is built on confidence in different elements: the health system, the vaccinator, and the vaccine itself.

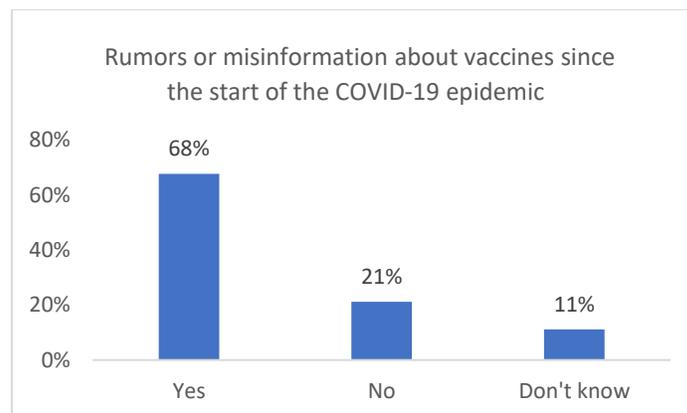
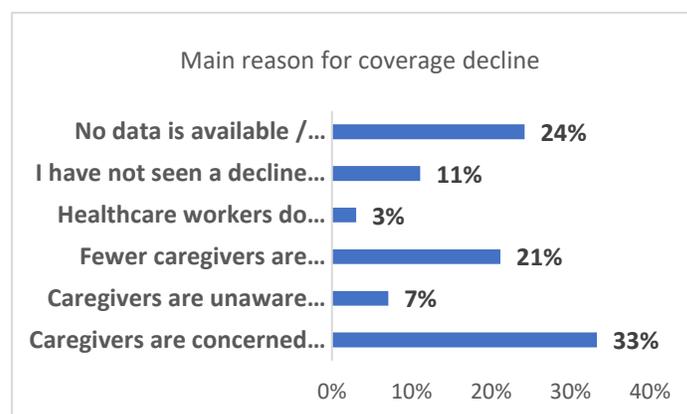
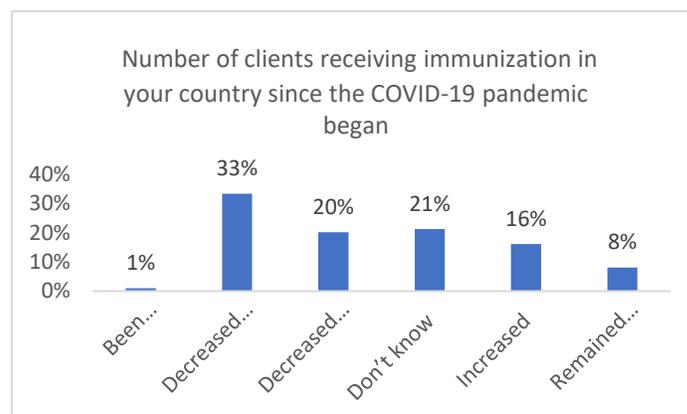
Dr. Abd compared the vaccine coverage before and after the pandemic explaining the negative impact of the pandemic on the coverage in different regions. Primary barriers to demand as reported through the Pulse Survey and Gavi Sit Reps. can be categorized under: caregiver and HCW exposure fears, COVID-19 mitigation policies such as lockdowns and transportation barriers, vaccine stockouts and limited supply and intensified spread of rumors and misinformation.

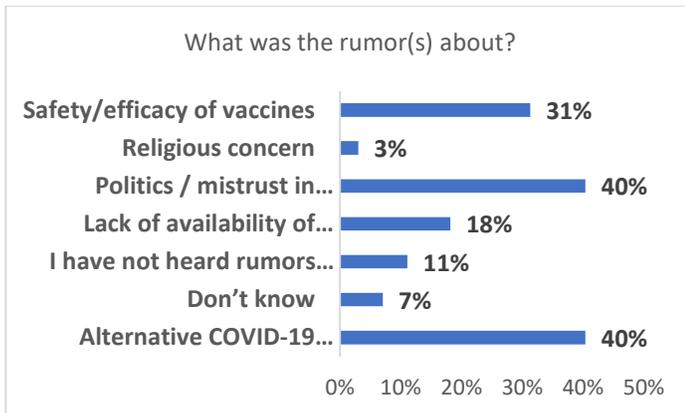
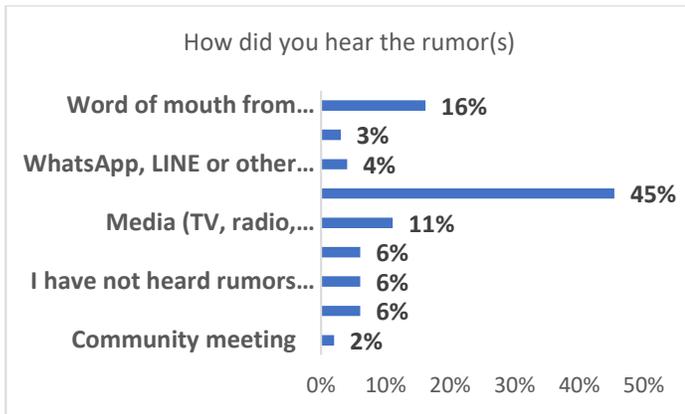
She also discussed the results generated from the poll survey at the beginning of the webinar, mentioned below.

She further explained the promising interventions that can help reduce the negative impact of COVID-19 on demand for vaccines based on the documented countries experiences, namely: strengthening

community engagement techniques, increasing HCW capacity to communicate about vaccines to caregivers, and responding to vaccine misinformation to increase public trust.

### Polling Results





## COVID-19 and Impact on Immunization, MENA Experience

*Dr. Daniel Ngemera*

Dr. Ngemera started his presentation by renewing the commitment of UNICEF in supporting immunization programs.

He raised the concern that countries are battling VDPs outbreak while responding to COVID-19. On the other hand, the health system is overstretched, and this can lead to more loss of lives and additional outbreaks.

Dr. Ngemera presented a comparison of coverage trends in the recent years as per WHO and UNICEF estimates, taking MCVI&2 as examples; the comparison showed declining coverage in some countries even prior COVID-19. He also highlighted the postponement of planned campaigns as an important sequel to the pandemic.

Based on UNICEF analysis, vaccine supply was not an issue during recent months, hence it is most likely that demand, fear, and movement restrictions are key contributors to the current coverage situation.

Dr. Ngemera highlighted the new guidelines that need to be adopted at the national level and mentioned

examples of some successes despite the pandemic situation in the region, such as conducting multi antigen campaigns in Syria, and diphtheria and polio campaigns in Yemen.

Other barriers include the availability of PPE, media engagement and rumor tracking. Before COVID-19, there were well known and documented barriers against vaccination. After COVID-19 additional barriers were added. These barriers are related to availability, access and utilization of children vaccination. According to Dr. Ngemera, the lockdown and restricted movement of population were the most important factors in decreasing children vaccination

Dr. Ngemera recommend four areas for work which include resumption of services and implementation of postponed campaigns, and demand interventions that targeted communities, caregivers, health worker and decision makers. The third area proposed is documentation of lessons learned from countries while the fourth area is strengthening coordination among partners at regional and country levels.

## Jordan Response to COVID-19 and Challenges on Demand for Immunization

*Dr Kamel Abusal*

Dr. Abusal started by presenting a brief background on Jordan's immunization program and its achievement prior to COVID-19 epidemic. He mentioned the high-risk groups in Jordan that include Syrian refugees as well as immigrants from Pakistan, India, and a few nomadic tribes such as Bedouins.

Dr. Abusal explained the response to COVID-19 pandemic by Government of Jordan through establishment and implementation of strong legal frameworks to mitigate the transmission inside the country. The Government took a decision of curfew and lock down across the country from 15 March until 25 April.

The lock down and restriction of movement resulted in health services disruption including immunization and decrease in immunization coverage. Vaccination coverage varied from 55% to 80% with differences in by geographical location

Dr. Abusal also presented Jordan immunization program interventions to mitigate the impact of COVID-19. Jordan started to resume health care services including primary health on April 26 when HC was opened to provide vaccine services only. This was

in addition to activation of mobile outreach program to improve coverage in hard-to-reach refugee children, such that the program succeeded in increasing the number of vaccination points in each HC.

Dr. Abusal mentioned that the response measures taken by the government (entry screening and quarantine measures) promoted trust of the health system including immunization services.

He briefed the participants on Jordan's mobilization plan which mainly focused on developing and distributing messages on daily basis through social media and mobile teams on the importance of vaccination.

Furthermore, the program applied intense infection control measures during vaccination that include mask use, hand hygiene and physical distancing.

Dr. Abusal explained that the introduction of Hepatitis A vaccine was utilized to improve the vaccination coverage rates after COVID-19.

Also, he mentioned that the program updated the national strategy for hard to reach pockets and venerable groups through staff trained on identifying under-served populations including refugees. There was temporary support from UNICEF to enable

strengthening and expanding RI to refugees in host communities and to provide missing vaccines for the targeted groups.

Moreover, the program will continue sustaining the vaccine management achievements (cold chain).

He summarized the challenge facing the program amongst refugees, as Jordan hosts the second –largest ratio of refugees to citizens in the world.

Also, the maps being used are out of date and do not show new settlements in rural as well as urban areas (20% inside camps, 80% in the host community).

He highlighted that some communities are reluctant to come to PHC, (fear of visiting health facilities, fear of getting infection, security reasons), besides the limited resources.

At the end of his presentation, Dr. Abusal recommended that Vaccine hesitancy in Jordan be assessed through a formal process.

Click <https://youtu.be/AEoCsg7YOI> to listen to the recorded webinar

## Discussion

The webinar concluded with Dr. Elisabeth facilitating the question and answer session. After filtering the questions, the following questions were presented and answered by relevant speaker. At the end of webinar Dr. Elisabeth and Dr. Magid summarized key take aways.

**Q1 Do you really think that failure to eradicate polio in remaining endemic countries has compromised the overall concept of childhood vaccination in these countries?**

Answer by Dr Daniel

Not really. There is a lot of progress made in childhood vaccination, and global, regional and country polio partners are working hard to address the existing challenges gaps in the endemic countries. Therefore, progress is made, and we cannot conclude that there is compromise in the overall concept of childhood as whole more children are being reached with quality immunization and partners are trying their best to address the challenges.

Answer by Dr Neetu

The COVID-19 pandemic brings additional challenges to immunization systems globally. For countries that have not eliminated polio, COVID-19 brings these challenges on top of challenges that already exists. But where there is challenge, there is opportunity- these countries can leverage the enhanced interest in COVID-19 vaccine to scaffold public trust in other childhood vaccines as well.

**Q2 Question to Dr. Neetu: In the motivational interviewing technique to address hesitancy of immunization, what constructs of the health belief model your advice to focus on to positively change the behavior?**

Answer by Dr Neetu

Motivational interviewing does not just involve the health belief model- it tries to address factors across different levels of the SAGE vaccine hesitancy matrix (service delivery, individual/group,

and context). The construct of motivation is also important, and this is included in the health belief model. Essentially, motivational interviewing is a practical intervention that addresses communication needs in the field.

**Q4 Question to Dr. Daniel: What do you think are the long-term effects of COVID-19 on the acceptance of vaccines and on the demand generation? Would you consider COVID-19 to have a positive impact on the uptake of vaccines?**

Answer by Dr. Daniel

Dr. Daniel: Thank you for your question. Regarding the long term effect of covid-19 on acceptance, what is needed is vigorous social mobilization and demand generation initiative to assure caregivers that health facilities or any service provision points are safe; and to provide more assurance to caregivers, as we are seeing an increase in coverage in some countries the coverage. I believe that the situation will get better as we all get engaged and learn how to ensure continuity of services in the context of covid-19.

**Q5 Question to Dr. Daniel: As you know, some poor countries in our region still depend on foreign funding from donors for some vaccines .... how was this affected during the COVID-19 crisis?**

Answer by Dr. Daniel

Dr. Daniel: Our region includes different categories of countries, high- and middle-income countries and the low-income countries which are GAVI eligible countries. We are not worrying about GAVI eligible countries. Our concern is about countries like Lebanon struggling with current situation and we need to have close eye to monitor.

**Q6 In Jordon, there is long list of challenges and problem. How can Jordon overcome these challenges and problems and achieve shine results in presentation?**

Answer by Dr. Kamel

Yes. Jordan has a long list of challenges and problems, but it also has a high governmental commitment towards health, particularly immunization. This is obviously shown by providing all vaccines free of charge for all children in Jordan including refugees and other nationalities, the vaccines and vaccines equipment is procured using own MoH budget for immunization (no donors). Jordan has a good vaccine management system with no reported stock out in the previous years. The 2nd is the public demand and good level of trust in the immunization program. Continued update and microplanning to reach high risk population including refugees in the host community and some logistical support for transportation supported by UNICEF are recommended.

**Q7 Are there any ethical considerations and guidelines regarding COVID-19 vaccination that have emerged so that countries around the globe share commitments to them.**

Answer by Dr. Daniel

Dr. Daniel: At the moment, there is a lot of work ongoing at global level, and guidance related to ethical consideration will be made available alongside guidelines for introduction and roll-out of the vaccine once made available.

**Q8 Question to Dr. Kamel: Have you tried to integrate vaccination promotion with the COVID-19 awareness messages?**

Answer by Dr. Kamel

Yes.

**Q9 for Dr. Kamel: Is there is a plan to introduce COVID-19 vaccine in Jordan?**

Answer by Dr. Kamel

Yes. Jordan has a plan to introduce COVID-19 when it is available and licensed. We are communicating with some vaccine manufactures.

**Q10 Thinking ahead, if and when the vaccines for COVID -19 become available. Are preparations underway to make provision for this activity?**

Answer by Dr. Daniel

Dr. Daniel: Yes. There is global coordination mechanism already established which involved different partners working in different work stream. This is now being rolled-out to regions and soon to countries.

**Q11 When COVID-19 vaccine is available, do you recommend taking both the influenza and COVID-19 vaccines?**

Answer by Dr. Daniel

Dr. Daniel: At the moment, all these details are not available once candidate vaccines currently at advanced stage of development. We have no more details whether both influenza and covid-19 vaccine can be taken together.

**Q12 for Dr. Kamel: Are you planning to provide the COVID-19 vaccine to high risk groups first; i.e. give them a priority over the other low risk groups or leave it to the high risk groups to decide whether to take it or not?**

Answer by Dr. Daniel

Jordan plan is to give vaccine to the high-risk group first (health staff). Criteria for prioritizing the target will be decided in consultation with the national epidemiological committee. The introduction of the COVID-19 vaccine will be started by a communication plan and training to promote vaccine intake among the health staff and community to get the vaccine.

**Q13 Dr Kamel: How has COVID-19 impacted vaccination of refugees in Jordan. Is its non-availability of health providers at camps and how you reach the refugees who are intermingled with general population?**

Answer by Dr. Kamel

Jordan provides all vaccines to the refugees in camps and outside camps as I mentioned before. MoH provides all vaccines to the health centers inside the camps. The refugees outside camps are provided with vaccines from the health centers similar to the Jordanian children (no difference) and it is free of charge. Regular separate monthly vaccination reports including the number of refugee's children vaccinated inside the camps and outside the camps are received.

**Q 14 How can we overcome the misinformation and vaccine hesitance and refusal?**

Answer by Dr Neetu

Some examples of how to address the infodemic were included in the presentation, including enhancing interpersonal communication between HCW and caregivers, strengthening community

engagement, and aligning messages from administrative staff to frontline health workers. Building trust in health workers and health system is critical for successfully overcoming caregiver concerns and fears.

**Q15. It is clear that safety of the vaccine is considered one of the biggest challenges that raised from the assessment. How it can be mitigated and reduced to ensure community?**

Answer

We do not yet know which vaccines will be selected to immunize populations against SARS-CoV2. But we do know that we need to be transparent and open about vaccine safety and efficacy, potential AEFIs, how to mitigate them, and the overall vaccine production process. It is also important to keep communicating that the vaccine development process is NOT skipping steps necessary to ensure the safety of vaccines.

**Q16. Can we use the COVID-19 vaccination when available to enhance other vaccination as an opportunity?**

Answer by Dr Neetu

Absolutely!

**Q 17 What are the activities to enhance community engagement to increase demand for routine immunization during the COVID-19**

Answer by Dr Neetu

Examples of how to do this were included in the presentation, including enhancing interpersonal communication between HCW and caregivers, strengthening community engagement, and aligning messages from administrative staff to frontline health workers.

**Q18 How experts can predict the complications of COVID-19 vaccine with the presence of information gap about COVID-19 virus?**

Answer by Dr Neetu

We will have to practice communicating what we don't know as much as what we do know, and identifying how we are filling knowledge gaps so that people can feel confident in the vaccines that are being offered to them. Giving transparent, frequent messages to the public will improve public trust in a COVID-19 vaccine and in other vaccines.

**Q19 Before COVID-19, there were well known and documented barriers against vaccination. After COVID-19 additional barriers were added. These barriers are related to availability, access and utilization of children vaccination. In my opinion, the lockdown and restricted movement of population were the most important factors in decreasing children vaccination. From the side of community, the phobia from being experimental subjects for the new COVID-19 vaccine made many families refused the good vaccines. NY Times reported last June a story from DRC concerning this rumor. Therefore, I believe that national and international health authorities need to ramp up vaccination for every missed child while keeping health workers and the community safe by using all possible measure to prevent the spread of COVID-19. Another suggestion is to think in how we can provide COVID-19 vaccine when available to the neediest children in developing countries.**

Answer

This is a great point- much is already known about barriers to immunization globally. COVID-19 offers another opportunity to study these barriers to see what remains the same and what new

challenges are there- but the most important part of these kinds of assessments are making sure that the data improves service delivery for communities.

**Q20. Are you witnessing any equity issues even with the decrease of immunization? Meaning are the vulnerable less able to access immunization during COVID-19?**

Answer by Dr Neetu

Dr. Neetu: Equity remains a primary concern as partners consider plans to roll out a COVID-19 vaccine. We want to ensure that all persons have access to life-saving vaccines whether for COVID-19 or other vaccines. It would be ideal to use lessons learned about equity from other vaccines to inform the rollout of COVID-19 vaccine.

**Q21. Does the Russian COVID-19 vaccine have enough efficacy to allow its use worldwide or its just for media consumption?**

Answer by Dr Neetu

Detailed information on specific COVID-19 vaccine candidates is not yet available.

**Q22. What is the major challenge in vaccination when it comes to community outreach, especially when it comes to cultural differences? How could we use the lessons we have learned from previous vaccination campaigns?**

Answer by Dr Neetu

We tend to consistently observe that communities are not brought in early enough as stakeholders in campaigns and facility-based immunizations. By listening to communities early on, we can learn valuable information that can improve service delivery before problems occur.

**Q23. Is it advised to use COVID-19 vaccine once available as a mean to increase demand for immunization in general? Any recommendations to ensure avoiding risks from using COVID-19 vaccine that compromise efforts to increase acceptance and demand for vaccination if side effects rise from new COVID-19 vaccine?**

Answer by Dr Neetu

Dr. Neetu: The demand for COVID-19 vaccine represents an opportunity to highlight the importance of vaccines in general, particularly childhood vaccination. Potential side effects of COVID-19 vaccines are not yet known, but it is important to plan for transparent and clear messages to communities that speak honestly about any safety issues and how to mitigate them. You can also simultaneously promote positive vaccine sentiment about other available vaccines.

**Q 24.Dr. Neetu: Do you think if you repeat the poll again, there will be any improvement in immunization services?**

Answer by Dr Neetu

Dr. Neetu: I think we will see improvement in demand and service delivery as time goes on, but we need to continuously understand what challenges communities are facing, and plan for how we can address those challenges.

**Q25. Many thanks for this outstanding webinar. What is the behavior change communication for COVID-19 that helps in improving the immunization outcomes? I think it would be a partnership between the COVID-19 context and the immunization program.**

Answer by Dr Neetu

Dr. Neetu: Thank you! I agree that immunization programs and COVID-19 pandemic response should be well aligned.

## **Conclusion and Takeaway**

- Demand is a process not status, it requires continuous engagement of communities and health workers.
- Huge load on health workers to respond to COVID 19, sustain immunization functions, and advocate to the new COVID 19 vaccine. effort should be directed to empower them and build their capacity.
- Demand interventions should be based on understanding local communities needs and values.
- Investing on strengthening the coordination at local, national, and regional level and avoid fragmentation is curial.
- Documentation of the lessons learned from countries will support the future action.
- Within COVID 19 pandemic there is a hidden opportunity for increasing demand to all vaccines.

**EMPHNET WEBi Series**

**COVID-19 Public Hesitancy and Provider Reluctance, Impact on Immunization Services and Mitigation Measures**

**Tuesday, August 11, 2020**  
17:00 to 18:30 Jordan Local Time (UTC +3)

**Speakers**

**Dr. Neetu Abad**  
Behavioral Scientist in the Global Immunization Division, US CDC.

**Dr. Daniel Ngemera**  
Senior Immunization Specialist, UNICEF Middle East and North Africa Regional Office.

**Dr. Kamel Abusal**  
National EPI Manager, Jordan

**Facilitators**

**Ms. Elisabeth Wilhelm**  
Health Communications Specialist in the Global Immunization Division, US CDC

**Dr. Magid Al-Gunaid**  
Public Health Programs Director, GHD/EMPHNET

Held in collaboration with the Centers for Disease Control and Prevention (US CDC)

**The webinar will focus on**

- 1- Shedding light on the main determinants of current challenges affecting demand for immunization.
- 2- Discussing appropriate strategies for regaining population trust and confidence in the immunization programs.
- 3- Proposing applicable, sustainable, and innovative solutions to maintain and improve HCWs commitment

**COVID-19 Response**  
GHD | EMPHNET: with you against COVID-19

## **Speakers' Bios**

### **Neetu Abad, PhD- Global-Presenter**

Dr. Abad is a behavioral scientist in the Global Immunization Division at US CDC, focusing on assessing and intervening on the behavioral drivers of vaccine hesitancy globally, particularly in low- and middle-income countries (LMICs). Dr. Neetu holds a PhD and M.A. in Social Psychology from the University of Missouri.

### **Dr. Daniel Ngemera, Senior Immunization Specialist, UNICEF- Presenter**

Dr. Ngemera is the Senior Immunization Specialist for the Middle East and North Africa Regional Office (MENARO), he is also leading the regional immunization team. Dr. Ngemera has more than 22 years of experience in the health field and has worked with UNICEF in various capacities and countries for the past 16 years in Tanzania, Iraq, Uganda, Sudan, South Sudan, and Myanmar. Dr. Ngemera holds an M.A. of Public Health from the Royal Tropical Institute, Amsterdam, Netherlands, and an MSc in International Health Management from Uppsala University, Sweden

### **Dr. Kamel Abusal, National EPI Manager, Jordan- Presenter**

Dr. Abusal is currently the National EPI Manager in Jordan with 20 years of experience in the field of Public Health, focusing mainly on the Expanded Program on Immunization. He is a member of NTAG and the Arab Board of Community Medicine. Dr. Abusal holds a Degree in Medical Science from Romania.

### **Elisabeth Wilhelm, MA- CDC- Facilitator**

Elisabeth Wilhelm is a Health Communications Specialist in the US CDC Global Immunization Division. She is on a team of behavioral scientists to diagnose and address vaccine demand and acceptance issues supporting the needs of low- and middle-income countries (LMICs). Elisabeth earned an M.A. in Communications from Johns Hopkins University.

### **Dr Magid Al-Gunaid, Public Health Programs Director, GHD | EMPHNET-Facilitator**

Dr. Magid Al-Gunaid, a medical doctor specialized in Health Systems Management and Public Administration. Dr Magid is the director of Public Health Programs, GHD/EMPHNET. During the period 1996-1999, Dr. Al-Gunaid served as District Health Director in Ibb governorate at the Ministry of Public Health, Yemen. After that he was assigned as the Director of Health Insurance to hold the Director General of planning position and then hold the Director General of Health Policy and Technical Support Unit until mid-2004. In 2004, he was appointed as the Deputy Minister for Primary Health Care at the Ministry of Public Health and Population, Yemen.