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CASE STUDY: PEDIATRIC COVID-19 VACCINATION CAMPAIGN 2022

Success and Contributing Factors

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ACRONYMS

ACSM	Advocacy Communication & Social Mobilization
AEFI	Adverse Events following Immunization
CDC	Centers for Disease Control and Prevention
COVAX	COVID-19 Vaccines Global Access
CSO	Civil Society Organization
DOE	Department of Education
DOH	Department of Health
DCs	Deputy Commissioners
EPI	Expanded Program on Immunization
FAQs	Frequently Asked Questions
FDI	Federal Directorate of Immunization
GOP	Government of Pakistan
ICT	Islamabad Capital Territory
IHSS-SD	Integrated Health Systems Strengthening and Service Delivery
ICT	Islamabad Capital Territory
JSI	JSI Research and Training, Inc.
MOHSRC	Ministry of National Health Services Regulations and Coordination
NCOC	National Command and Control Center
PPA	Pakistan Pediatric Association
PMA	Pakistan Medical Association National
SAGE	Strategic Advisory Group of Experts on Immunization
TOTs	Training of Trainers
U.S.	United States
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

Case Study: Pediatric COVID-19 Vaccination Campaign 2022 - Success and Contributing Factors

EXECUTIVE SUMMARY

This case study summarizes the success achieved by the Pediatric COVID-19 Vaccination Campaign 2022 and provides an in-depth analysis of factors contributing to the campaign's success. Findings summarized here can inform future COVID-19 pediatric campaigns in Pakistan and other countries undertaking similar pediatric vaccination activities.

The Pediatric COVID-19 Vaccination Campaign 2022 was implemented by the Government of Pakistan (GOP) with the support of USAID. The campaign aimed to fully vaccinate eight million children between the ages of 5 and 11 living in 14 high-burden districts of Punjab, Sindh, and the Islamabad Capital Territory (ICT). The Activity administered the Pfizer-BioNTech two-dose COVID-19 vaccine regimen in two rounds. Round I took place between September 19-24, 2022 and Round II was conducted between October 31 and November 5, 2022.

The campaign was implemented successfully despite several key challenges. For example, there is limited data on similar initiatives implemented in other countries to draw from and the team had limited time for campaign preparation and implementation.

In Pakistan, vaccinating children aged 5-11 years against COVID-19 is likely to substantially reduce the health and socio-economic vulnerability of this age group. It is also likely to catalyze Pakistan's progress towards the global benchmark of fully vaccinating 70% of a country's population. Pakistan has a substantially young population and vaccinating the target age group is important for its achievement of this global standard.

The campaign resulted in over 7.8 million children vaccinated with few and largely non-serious adverse events following immunization (AEFI) and a minimal vaccine wastage rate of approximately 4.5 percent. Four main factors

contributed to the campaign's success:

1. Availability of funding
2. Strong leadership and coordination across the national and subnational levels
3. Augmented healthcare system capacities
4. Increased demand for pediatric COVID-19 vaccination generated through advocacy and communication

According to the World Health Organization (WHO), the World Bank, and their partners, COVID-19 vaccine deployment, especially in low-income countries, has been impeded by an insufficient emphasis on these four factors.

The U.S. government provided vital support for the campaign, which is part of the ongoing collaboration between the United States and Pakistan in countering COVID-19 pandemic. The U.S. government's contribution also reinforced other contributing factors. All COVID-19 vaccine doses were donated by the United



A school boy is vaccinated at the campaign launch at Mass Vaccination Center in Islamabad

States in partnership with COVID-19 Vaccines Global Access (COVAX). The United States Agency for International Development (USAID) funded the operational costs of the campaign.

The GOP worked closely with development partners, Civil Society Organizations (CSOs), and individual experts for the execution of the campaign. The governance and coordination for the campaign were based on existing mechanisms for COVID-19 vaccine deployment in Pakistan. The National Command and



A boy is vaccinated at the mass vaccination center, Islamabad during the pediatric COVID-19 vaccination campaign.

Operations Center (NCOC) led the campaign and provided guidance and strategic oversight whereas, the Federal Directorate of Immunization (FDI) was responsible for campaign planning and coordination. The provincial Departments of Health (DOHs) and their Expanded Programme of Immunization (EPI) Directorates focused on the field activities of the campaign. During the daily NCOC meetings, the progress of the campaign was monitored, and major challenges were analyzed and solved, including those presented by the various provinces. In addition, steering committees were notified in ICT, Punjab and Sindh to manage the coverage and quality of the campaign. Provincial sub-committees consisting of experienced experts supervised

different components of the campaign. Deputy Commissioners (DCs) and their offices were engaged as they effectively coordinated with an array of actors, ensured the safety of field teams, arranged access to garrison and cantonment areas and managed the execution of the campaign at the district level. The USAID funded IHSS-SD Activity played a crucial role by strengthening partnerships and by supporting the FDI, DOHs, and the respective provincial EPI Directorates planned the implementation of the campaign through the provision of short-term technical assistance. Successful execution was made possible through the mix of delivery sites that increased coverage by either bringing vaccines to the target children or by bringing vaccination closer to their communities. Trained and remunerated workforce, including skilled staff were involved in the management of AEFI, cold chain, and warehousing. The campaign engaged about 13,000 outreach, fixed site, and mobile/special teams.

Demand for pediatric COVID-19 vaccines was ensured through the large-scale deployment of 19,000 Social Mobilizers and an effective UNICEF-led Advocacy Communication & Social Mobilization (ACSM) component. As part of the ACSM component, UNICEF undertook pre-campaign advocacy with key decision-makers and influencers, to create, buy-in and prevent misinformation. Given the diverse regional and socio-economic backgrounds of the campaign's audience different approaches were adopted. The audience were provided (a) information on the nearest locations and timings for the vaccinations, making the vaccination process easier for them and (b) content depicting testimonials from diverse and trusted messengers. The content referred recipients to the 1166 helpline for further details.

The way forward is to increase pediatric COVID-19 vaccination until at least 70 percent of Pakistan's total population is vaccinated against COVID-19. To optimize performance, future pediatric vaccination campaigns should leverage factors that contributed to this campaign's success and avoid the challenges and limitations experienced by the campaign when possible. Furthermore, future mass pediatric vaccination campaigns should be phased to gradually increase COVID-19 vaccine delivery alongside routine childhood immunizations.

COUNTRY CONTEXT

In Pakistan, vaccinating children ages 5 to 11 against COVID-19 can substantially reduce the health and socio-economic vulnerability of individuals in this age group¹. In addition, vaccinating this age group is likely to catalyze Pakistan's progress towards the global benchmark of all countries achieving 70 percent COVID-19 vaccine coverage. Pakistan has a relatively

young population and vaccinating the target age group is an important step towards achieving this global benchmark. Achieving this target would mean high population immunity, which is essential in the face of an evolving and increasingly transmissible virus².

OVERVIEW: PEDIATRIC COVID-19 VACCINATION CAMPAIGN

In 2022, the GOP implemented a pediatric COVID-19 vaccination campaign for children ages 5 to 11 with the support of USAID. Fourteen (14) districts within Punjab, Sindh, and ICT with high COVID-19 disease burden were selected for the campaign. Table I shows details regarding the campaign's target population, implementation areas, and reach. The campaign aimed to vaccinate approximately eight million children ages 5 to 11 against COVID-19.

The Centers for Disease Control and Prevention (CDC) and WHO recommend Pfizer-BioNTech and Moderna COVID-19 vaccines for everyone ages six months and older.

The pediatric campaign in Pakistan used the Pfizer-BioNTech COVID-19 vaccine. The Food and Drug Administration (FDA) states the vaccine should be injected into the muscle and should be administered as a two-dose series. The campaign was, therefore, implemented in two rounds. Round I took place between September 19-24, 2022 and Round II took place between October 31 and November 5, 2022. During both rounds, the campaign aimed to reach children in educational institutions (schools and madrassahs), health facilities, and temporary vaccination points/centers through static services, outreach, and mobile vaccination teams. In the post-campaign phase, static COVID-19 vaccination centers continued offering the COVID-19 vaccine.

Target areas	The number of children aged 5-11 years in the target areas	The target number of children aged 5-11 years the campaign aimed to reach
Lahore	2,454,455	1,963,564
Multan	1,015,818	812,654
Rawalpindi	1,170,407	936,326
Bahawalpur	783,721	626,977
Okara	645,533	516,426
Subtotal-Punjab	6,069,934	4,855,947
Karachi	3,502,466	2,423,018
Hyderabad	4,67,546	332,187
Subtotal-Sindh	3,970,012	2,755,205
ICT	477,750	334,425
Total	10,517,696	7,945,577

(Data from the Pakistan Federal Directorate of Immunization)

¹UNESCO and UNICEF, Situation Analysis on the Effects of and Responses to COVID-19 on the Education Sector in Asia: Case Study from Pakistan.

²WHO, Global COVID-19 Vaccination Strategy in a Changing World: July 2022 update.

LIMITATIONS The Pediatric COVID-19 Vaccination Campaign was Pakistan's first COVID-19 vaccination campaign targeting children ages 5 to 11. A limited number of countries were vaccinating this age group at the time of the campaign, providing limited international experience to leverage.

FDI recommends a four- to six-month preparation period for a vaccination campaign of this scale. However, the team had only two and half months to prepare. In addition, a vaccination campaign of this magnitude requires at least twelve days per round, but the team had only planned for six days to carry out each of the two rounds.



A child is vaccinated at a primary school during the COVID-19 pediatric vaccination campaign in Multan (Punjab), Sept. 23, 2022.

KEY ACHIEVEMENTS

Pakistan's first pediatric vaccination campaign resulted in a significant number and proportion of children vaccinated, low and largely non-serious AEFI, and minimal vaccine wastage.

COVERAGE

In Round I, the campaign vaccinated 7.5 million children; 7.9 million children received COVID-19 vaccination in Round II.

96.1%

The percent of unvaccinated children in the target areas that the campaign vaccinated against COVID-19.

REPORTED ADVERSE EVENTS FOLLOWING IMMUNIZATION (AEFI)

Reported side effects are mild, temporary and like those experiences after routine vaccination. Common side effects amongst children can include pain, redness and swelling at the injection site, fever/chills tiredness, headache, muscle pain and nausea. WHO defines an AEFI as "any untoward medical occurrence following immunization which does not necessarily have a causal relationship with the usage of the vaccine." Individuals vaccinated during the campaign reported a total of 857 AEFI of a minor nature. The majority of reported adverse events (53 percent) were non-serious local injection site reactions, such as swelling, redness, and/or pain.

What are the side effects of the COVID-19 vaccine?

Reported side effects are mild, temporary and like those experiences after routine vaccination. Common side effects amongst children can include pain, redness and swelling at the injection site, fever/chills tiredness, headache, muscle pain and nausea.

VACCINE WASTAGE

The FDI reported low vaccine wastage at approximately 4.5 percent. Per the GAVI Global Indicative Wastage Rates 2021, the expected wastage for one campaign round was 10 percent.

CONTRIBUTING FACTORS

Four main factors contributed to the campaign's success:

1. Availability of funding
2. Strong leadership and coordination across the national and subnational levels
3. Augmented healthcare system capacities
4. Increased demand for pediatric COVID-19 vaccination generated through effective advocacy and communication

U.S. GOVERNMENT FUNDING AND SUPPORT

USAID funded the campaign's operational cost, and all COVID-19 vaccine doses were donated by the United States in partnership with COVAX. The IHSS-SD Activity also supported the GOP to plan and implement the campaign. UNICEF led the Advocacy Communication & Social Mobilization (ACSM) component, and WHO led the AEFI component and trained skilled staff. The campaign is part of the ongoing collaboration between the United States and Pakistan to counter the COVID-19 pandemic.

At the campaign launch ceremony, Ambassador Blome shared his remarks. The Federal Health Minister, Mr. Abdul Qadir Patel, also expressed gratitude for the U.S. government's support to improve health services in Pakistan and noted that it reflects the strong bilateral relations between the two countries. He praised the commitment of both countries to combat COVID-19 in Pakistan and said, "Protecting our communities from COVID-19 is a shared priority of both of our governments, and these vaccines will keep millions of children safe from the most devastating impacts of the pandemic."



US Ambassador to Pakistan, Mr. Donald Blome speaking at the campaign launch in Islamabad, Sept. 19, 22.

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Today we celebrate the next step in protecting all Pakistanis against this devastating disease by launching the pediatric vaccination campaign. Our recent collaboration to protect the children of Pakistan demonstrates the importance of our longstanding partnership to work together and overcome the global challenge.

U.S. Ambassador Donald Blome
At the campaign launching ceremony, Islamabad

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STRONG LEADERSHIP AND COORDINATION

The GOP adopted a whole-government approach to successfully execute the campaign. Diverse government agencies participated in the decision-making process and there was strong coordination between the Federal, provincial, and district governments. The GOP also worked closely with development partners, local CSOs, and individual experts. This approach was effective due to several factors, including the country's existing governance and coordination mechanisms for COVID-19 vaccine deployment; the establishment of provincial steering committees and sub-committees; the engagement of the district administrations; and the support provided by the IHSS-SD Activity.

Pakistan's existing governance and coordination mechanisms for COVID-19 vaccine deployment. Pakistan has clear governance and coordination mechanisms for COVID-19 vaccine deployment. The country has an established decision-making structure and process at federal and provincial levels that ensures that COVID-19 vaccine deployment is based on rigorous scientific evidence. The GOP established the National Command and Operations Center (NCOC)

as part of this decision-making structure. The NCOC oversees the COVID-19 response in Pakistan and is mandated to make decisions related to vaccine deployment. The Center meets daily for Federal ministry representatives to participate in the national level decision-making process. The Ministry of National Health Services Regulations and Coordination (MONHSRC) is also represented at the NCOC and plays a major role in coordinating with the provinces and international partners. FDI operates under MONHSRC. Provincial officials, including officials from provincial DOHs and their EPI Directorates, also support the national decision-making process.

The governance and coordination mechanisms for the Pediatric COVID-19 Vaccination Campaign 2022 operated in line with these existing mechanisms. The NCOC led the campaign and provided guidance and strategic oversight. The FDI was responsible for campaign coordination and planning, and the DOHs and their EPI Directorates focused on field activities and campaign implementation. During the daily NCOC meetings, attended by representatives of Federal Ministries and FDI, the attendees monitored campaign progress and analyzed and solved major challenges, including those presented by the provinces.

Establishing provincial steering committees and sub-committees. The Provincial EPI Directorates established provincial steering committees in ICT Punjab and Sindh. These steering committees proved essential in bringing together USAID, implementing partners, key governmental organizations, CSOs, and experts to support campaign management. These committees included representatives from the USAID, JSI, UNICEF, WHO, DOH, the Department of Education, local government, Pakistan Pediatric Association, Pakistan Medical Association, pediatricians, and public health experts. The steering committees oversaw achievements towards coverage targets and quality assurance. They ensured adherence to WHO recommended guidelines during the pre-campaign, campaign, and post-campaign phases. Provincial sub-committees for AEFI, logistics, communications, and training were also established.

Engaging district administrations. Provincial DOHs brought district administrations on board and held advocacy sessions with Deputy Commissioners at provincial and district levels as part of the ACSM component. The Deputy Commissioners and their offices worked with an array of actors at the district level, including officials from the Department of Education, religious affairs (*auqaf*), and the police to ensure the safe and adequate

execution of the campaign. Deputy Commissioner offices also arranged access to garrison and cantonment areas. Deputy Commissioner offices held daily review meetings to oversee compliance and track achievement towards set daily targets.

Support from the IHSS-SD Activity. The IHSS-SD Activity played a crucial role in fostering strong leadership and coordination at multiple levels. The IHSS-SD Activity worked with FDI to plan and formalize (through a letter of understanding) the details of the assigned roles and work style of the different entities involved in the campaign. The Activity worked with the FDI, DOHs, and the respective EPI Directorates to operationalize the plan. The IHSS-SD Activity also provided short-term technical assistance to FDI, DOHs, and the respective EPI Directorates as needed.

BILATERAL COLLABORATION AND SUPPORT

One of the key drivers to improving Pakistan's critical healthcare capacities since the beginning of the COVID-19 pandemic has been the strong bilateral health cooperation between the United States and Pakistan. Ambassador Blome acknowledged this important relationship during an address on August 27, 2022. He stated, "The vaccines, supplies, and training we have provided to Pakistan, coupled with the expertise and dedication of Pakistan's healthcare professionals, will allow our two countries to continue working together to combat COVID-19 and safeguard the health and safety of the Pakistani people."

Various health system additions. Campaign implementors used a variety of delivery sites to bring vaccination closer to the communities. This approach allowed maximum coverage while also maintaining appropriate cold chain storage and transport. For example, delivering vaccines to children at educational institutions (schools and *madrassahs*) and accessible health facilities and vaccination centers brought vaccines to much of the target population and minimized the cost and time required to vaccinate a child.

A trained workforce. Globally, a lack of trained healthcare workers is a main factor behind sub-optimal vaccination coverage. WHO designed and implemented technical training for skilled staff, including those involved in the management of AEFI, cold

chain, and warehousing. Field teams were trained using a cascade model. FDI conducted a Training of Master Trainers and master trainers trained provincial trainers, who then trained district-level field teams. The IHSS-SD Activity helped implement training sessions and developed a payment mechanism to deliver timely payments to the trainees and the workforce.

SEHAT TAHAFFUZ 1166 HELPLINE

The communication material referred recipients to the GOP's Sehat Tahaffuz 1166 helpline for further details.

This provided parents and caregivers with information regarding the safety of the vaccine and the vaccination process.

A system for effective and efficient AEFI management.

Establishing a crisis communication hotline for effective and efficient AEFI management was essential to ensuring continued public confidence and achieving high coverage through the campaign. AEFI committee members were trained to manage any reported case of AEFI and to mitigate any vaccine-related misinformation. DOH provided trainings and WHO provided the AEFI kits to manage any adverse effects with the support of USAID. Field teams received the AEFI focal person's contact information, and ambulances were arranged to transport any AEFI case to assigned health facility.

EFFECTIVE ADVOCACY AND COMMUNICATION

Introducing and promoting a new vaccine, especially to the 5 to 11 age group, is a complex and challenging task requiring parental consent. To help increase demand for pediatric COVID-19 vaccines, the campaign recruited Social Mobilizers as part of field teams. The ACSM component was effective due to pre-campaign advocacy; using multiple, simultaneous communication approaches; and leveraging context-specific communication channels and content.

Large-scale deployment of trained Social Mobilizers. As

mentioned above, the campaign deployed a trained, paid workforce to augment the healthcare system and deliver the campaign. A total of 19,000 Social Mobilizers were deployed across Punjab, Sindh, and ICT for this purpose. They were part of three- to four-person field teams. Social Mobilizers also worked at static centers to mobilize parents or other caregivers to get their children vaccinated.



A girl child is vaccinated at a government primary school, Multan (Punjab).

Pre-campaign advocacy with key stakeholders to optimize campaign execution and enhance demand for pediatric COVID-19 vaccination.

The campaign team conducted pre-campaign advocacy with key decision-makers and influencers, with a focus on creating buy-in and preventing misinformation. Advocacy activities aimed to leverage the stakeholders' authority and influence to optimize campaign execution and enhance demand for pediatric COVID-19 vaccination. Pre-campaign advocacy activities included:

- Holding advocacy seminars and meetings with various provincial and district-level stakeholders.
- Holding advocacy seminars and meetings with various governmental and non-governmental stakeholders, including those in the education sector.
- Meetings with Public and private school associations, madrassahs, Pakistan Medical association, Pakistan Pediatric Associations and Deputy Commissioners.

Media engagement. The campaign held a seminar for representatives from local and regional television and radio channels to improve their capacity to accurately report on COVID-19 vaccines, including the pediatric vaccination campaign.

Using multiple communication approaches for maximum outreach and impact. UNICEF used multiple communication approaches simultaneously, including interpersonal, media, and social mobilization approaches. It also implemented mid-sized media campaign including billboards, announcements on vehicles and branding, and small print media. UNICEF also produced answers to frequently asked questions (FAQs, leaflets, banners, and streamers. Most communication content referred recipients to the GOP's Sehat Tahaffuz 1166 help line for further information.

Context-specificity. The ACSM interventions were context-specific as they included communication channels relevant to all audience segments. In addition, the interventions provided audiences with (a) information on the nearest locations and timings for pediatric vaccinations, making the vaccination process easier for them and (b) content depicting testimonials from diverse and trusted messengers. The testimonials, largely in the form of video messages, provided messages from sources such as the Federal Minister for National Health Services, Regulations & Coordination, political personalities, members of professional associations (i.e., Pakistan Medical Association and Pakistan Pediatric Association), pediatricians, and religious leaders.

CONCLUSION

The success of the Pediatric COVID-19 Vaccination Campaign 2022 has shown that investing in childhood vaccinations is safe, minimizes the risk of death and severe disease among children, and minimizes disease transmission from children to parents and grandparents. The campaign also demonstrated that parents in Pakistan are largely receptive to pediatric COVID-19 vaccination. Recommended next steps are to scale up pediatric COVID-19 vaccination so that 70 percent of Pakistan's total population is vaccinated against COVID-19.

As a best practice, future pediatric vaccination campaigns should focus on addressing identified barriers to childhood vaccination and should avoid the challenges and limitations experienced by this campaign when possible. Additionally, future mass pediatric vaccination campaigns should be phased, with a gradual increase COVID-19 vaccine delivery alongside routine childhood immunization.