

Situational Analysis

Understanding Barriers and Challenges for Addressing Inequity of Urban Immunization Services in Karachi, Pakistan



REACHING UNVACCINATED POPULATIONS IN KARACHI

Despite the efforts of the Expanded Program on Immunization (EPI) to provide free immunization services against 11 vaccinepreventable diseases,¹ over half (58%) of children in Karachi remain unvaccinated (Butt et al., 2020); and the proportion of these unvaccinated or under-vaccinated children in Karachi is among the world's highest (WUENIC-2016). Nearly half the population (45.5% in 2014) of Karachi live in the nearly 1,000 slums within and around the city (World Bank, 2019), drawn by work prospects, education, and healthcare in the country's economic hub. However, since the majority of people living in Karachi's slums are unregistered, their access to public health services is limited.

A 2019 study examined barriers and challenges to urban immunization service delivery in Karachi and found that:

- 1. The routine immunization system in Karachi is complex and fragmented with multiple stakeholders, leading to issues in governance, management, accountability, coordination, and monitoring that create bottlenecks and delays in service delivery.
- 2. Human resource deficiencies meant that highly urbanized areas were understaffed with trained vaccinators, community health workers (CHWs), and lady health workers (LHWs).
- 3. EPI service delivery sites are inadequate compared with population size and inconsistent in quality.
- 4. Community context, including language barriers, contributed to gaps in immunization coverage between different cultural groups.



Government officials worked alongside partners to develop a roadmap with a comprehensive plan that addressed the barriers identified in this situational analysis to improve immunization services in Karachi. Barriers and challenges to immunization service delivery were addressed by developing interventions that will be implemented throughout Karachi.



From December 2018 to March 2019, John Snow Research & Training Institute, Inc. (JSI) collaborated with the Government of Sindh's EPI unit, through support from Gavi, the Vaccine Alliance, to conduct a situational analysis of routine immunization in Karachi. This comprehensive assessment of EPI services in Karachi thoroughly reviewed the components and structure of the routine immunization (RI) delivery system, vaccination coverage and monitoring, current resources and stakeholders involved (including existing public, private, and community services); and identified the gaps in knowledge and resources, barriers and shortcomings in governance, demand generation, and service delivery.

The mixed-method assessment used both quantitative and qualitative data. Secondary data on RI coverage, cold chain equipment, and system components such as EPI centers and vaccinators were collected from district/town health offices, provincial EPI & Emergency Operation Center (EOC) for polio offices, and various other sources. Quantitative data were collected through a rapid survey of 75 households in two randomly selected Union Councils (the lowest administrative level) of one town in each of the six districts of Karachi, for a total of 900 households, and observed vaccination at the fixed and outreach sites. The survey sought to examine trends in immunization coverage including reasons for failures and missed opportunities in immunization. Qualitative data were also collected via 115 in-depth interviews and 27 focus group discussions (FGDs) with stakeholders—public- and private-sector administrators and medical officers, vaccinators, LHWs² and their supervisors, CHWs and their supervisors, parents, and religious leaders.

THE FINDINGS AND THE ROADMAP

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Vaccination coverage was 73% in Karachi, which was below the national target of 80%, with 22% of children partially vaccinated and 5% unvaccinated (zero dose). The proportion of unvaccinated children was higher in the peripheral areas with 11% in the SITE Town of district West, and 7% in Bin Qasim in Malir district. Only three of the 12 clusters of the Union Councils surveyed exceeded 80% coverage.

¹ Through the following vaccines: BCG, OPV, Penta, MCV, RVV, TCV (http://www.emro.who.int/pak/programmes/expanded-programme-on-immunization.html) 2 Lady health workers are salaried, trained public employees who are deployed within their communities to help strengthen basic health services, including maternal and childcare, nutrition, and community mobilization.



Findings from this assessment informed the development of a roadmap to strengthen immunization services in Karachi. The strategic objectives of the roadmap, as well as its interventions, work to directly address the areas of improvement identified in the study: governance, human resources, service organization and delivery, logistics and supplies, community and demand generation, and monitoring and data management.

Covernance: Governance, leadership, and accountability of the EPI system in Karachi is highly complex. There are multiple management structures and fragmented service delivery systems that lack functional coordination between public government departments and the public and private health sectors. Additionally, there is inadequate supervision, monitoring, and feedback mechanisms for fixed and outreach vaccination sites; lack of accountability for poor performance; and no system for the recognition of improved vaccinator performance.

To address this gap in coordination between government offices, the interventions developed for the roadmap include:

• Establish an EPI Task Force under the Ministry of Health and Chief Secretary of Sindh province to coordinate all governing bodies with clearly defined roles. • Develop policies to include private sector participation in EPI planning and implementation, including access to cold chain equipment (CCE) and commodities.

Human resources: The majority of Union Councils (166 out of 188) do not meet the national guidance of one vaccinator being available for every 10,000 people living in an urban setting. In addition, the placement of vaccinators does not match the client load at EPI centers, indicating that there is mismanagement in resource utilization. Vaccinators also encounter challenges in seeking proper training and compensation. Vaccinators often do not receive refresher trainings and reported feeling demotivated because they are not compensated for fuel costs for outreach services. Newly recruited vaccinators also report difficulty in receiving their salaries due to cumbersome policies requiring lengthy payment approvals.

CHWs and LHWs can be mobilized to support vaccinators at the community level. However, CHW deployment for RI has been limited to 33% of the areas of Karachi. Additionally, an incident resulting in the death of four children died associated with measles vaccination in the district Shaheed Benazirabad led to a halt in Karachi's 3,000 LHWs providing immunization services.

Figure 1. Existing Administrative and Supervisory Organogram EPI Program Sindh



Figure 2. Reasons caregivers never vaccinated (zero-dose) and partially vaccinated their children



To address these human resource issues for immunization in Karachi, the roadmap includes the following interventions:

- Develop policies allowing LHWs to provide supervised vaccination outreach.
- Develop and fund systems for ensuring immunizer payment, covering fuel expenses.
- Establish an incentive program for EPI immunizers.

Service organization and delivery: EPI service delivery sites in Karachi are either hard-to-reach, of poor quality, or open at inconvenient times for working parents. Some facilities visited during the assessment were nonfunctional or were not clearly identifiable as an EPI center. Additionally, planned outreach sessions did not always take place due to lack of coordination between vaccinators, LHWs, and CHWs in some communities.

At the site level, the study team found inconsistent planning and management of immunization activities. Standard forms and recording and reporting tools are available for documenting routine EPI activities, but not used in all EPI centers. Of 11 facilities visited, only three had a monthly outreach plan; seven had micro-plans and catchment maps; and five had a zero-dose list available. Access to and use of immunization services by Karachi's urban poor is low in comparison to those residing in wealthier areas. Many factors contribute to low uptake of services, including the inequitable geographic distribution of public health centers and unfriendly environment. To address these issues in service organization and delivery, the following activities were developed for the roadmap:

- Strengthen the EPI and PEI synergy through coordination at the service delivery level to improve coordination of vaccinators, CHWs and LHWs.
- Increase private sector engagement in vaccination clinics and outreach.
- Establish service schedules to accommodate working caregivers.

Logistics and supply chain: The situational assessment found adequate CCE at all public EPI centers. However, as of January 2019, although 159 health facilities had more than one CCE, the CCE was nonfunctional in 66 facilities. Additionally, some facilities had an insufficient number of vials and doses of the BCG and measles vaccines when compared to their target population. Private sector health facilities are not provided CCE from EPI, so they keep vaccines in refrigerators that do not maintain the optimal temperature range required for vaccine storage. Policy changes and the development of memorandums of understanding (MOUs) can help to ensure that private facilities are included in the immunization program and offered optimal cold chain capacity.

To address the issues of logistics and supplies for immunization in Karachi, the roadmap intervention is to develop a system to increase visibility of the supply chain through all levels of the health system. **Community context and demand generation:** Immunization clients hold a range of beliefs about immunization, religious customs (including some that restrict women's movement without an accompanying male), and fears and concerns regarding vaccination. If these factors are not addressed or accommodated, low demand for and use of vaccination services can result in underor un-immunized children. In the situational analysis, mothers of under- or un-immunized children reported not attending vaccination sessions due to low-quality services, lack of information, and lack of motivation. Caregivers reported a fear of side effects, being too busy, and not knowing that children must receive multiple doses for full protection. Still, qualitative data showed that communities were generally receptive to vaccination services. Interviewees also reported that clinic hours were inconvenient.

Language presented another major barrier for Karachi's community, especially those in low-income areas who were more likely to have limited literacy. Language was correlated with vaccination rates due to communication issues with the caregivers.

FGDs with communities revealed the resistance to the polio vaccination due to anti-vaccine messages. When informed that RI services were free and offer protection from multiple diseases, FGD participants requested more EPI centers in their community (or in nearby areas) to vaccinate their children. These findings highlight the need for immunization messages that reflect the multicultural and multi-linguistic nature of Karachi.

To strengthen cultural competence and demand generation in communities, the intervention developed for the roadmap was to develop culturally and linguistically appropriate messages to educate and engage communities on immunization.

Service monitoring and data management: Supervision and monitoring of immunization services is weak in Karachi. Sindh Province lacks sufficient human resources for monitoring. Supervisors are overburdened and lack accountability structures, leading to monitoring activities not taking place. Qualitative data indicated that routine immunization staff had excessive workloads due to multiple data entry tasks into registers and the vaccine registry app. Interviewees noted that the RI program, in contrast to the polio program, lacks performance-based initiatives and incentives for both vaccinators and managers.

Data management for routine immunization is an ongoing challenge. The absence of a dedicated governmental department for digital record keeping and data driven decision-making makes it difficult to strengthen data management systems. Informants welcomed digital platforms for data management, but reported infrastructure and system barriers that limit use of these resources including excessive workloads, the exclusion of the private sector from the public vaccination reporting system, and the absence of linkages between vaccinators and birth attendants. An examination of data quality also revealed challenges. A comparison of the EPI Center's data with town and provincial-level data revealed discrepancies in nine out of the 11 sampled fixed centers and six out of nine sampled outreach centers.



To address these issues of monitoring and data management, the following interventions were developed for the roadmap:

- Encourage data sharing between EPI, the private sector, and the PEI.
- Establish a department for managing digital data collection and ensure that staff receive training in assessing and interpreting data.
- Develop systems for fully documenting fixed and outreach sessions.

JSI supported the Sindh EPI department, with funding support from Gavi, to conduct a comprehensive situational analysis to identify the root causes of inequity in immunization services. The findings were used to create interventions for the roadmap to address these inequities. This was a highly collaborative effort involving all the entities within the Government of Sindh province (EPI department, EOC, and City Corporation), implementing partners, stakeholders, and civil society, and continues with coordinated implementation of the roadmap to achieve sustainable, universal immunization coverage in Karachi. This process and efforts undertaken to develop the Karachi Roadmap can be an example for other countries as they work to strengthen their immunization coverage.

References

Butt, Mahreen, Raihan Mohammed, Eman Butt, Sundas Butt, and Jinpo Xiang. 2010. Risk Management and Healthcare Policy 13:111–124.

JSI. 2020. Baseline Study for Development of Urban Immunization Roadmap for Karachi, Pakistan. Arlington, VA: JSI.

The World Bank Group. 2019. "Population Living in Slums (% of Urban Population)—Pakistan". Accessed at <u>https://data.worldbank.org/</u> indicator/EN.POP.SLUM.UR.ZS?locations=PK