ROADMAP FOR ACHIEVING UNIVERSAL IMMUNIZATION COVERAGE IN KARACHI, PAKISTAN, 2019–2022

MESSAGE

Dr. Azra Fazal Pechuho
Honorable Minister of Health, Sindh

The Health Department of Sindh is committed to increasing routine immunization coverage and equitable access to immunization services in Karachi, Sindh, Pakistan. The Government of Sindh aspires to reach 90% full immunization coverage; this can only be achieved by closing knowledge gaps, ensuring that all populations (regardless of socio-economic status) have access to quality services, and by instituting sustainable solutions.

Despite substantial efforts to increase routine immunization coverage nationwide, accessibility to vaccines remains both a challenge and a priority. As we work to achieve this target, coordination, collaboration, and commitment are required to identify solutions to reach our goal. The launch of the *Roadmap for Achieving Universal Immunization Coverage in Karachi, Pakistan, 2019-2022* is a step in the right direction to avert illnesses and deaths from vaccine preventable diseases and eradicate poliomyelitis in Karachi. This important document establishes a clear way forward to improve coordination mechanisms, accountability, planning, service delivery, and other aspects of the routine immunization system in the city of Karachi.

I congratulate the Sindh Extended Program on Immunization and their partners on this great achievement and look forward to working together to build on past endeavors and future interventions toward reaching the goal of 90% full immunization coverage in our city.

PREFACE

Mr. Zahid Ali Abbasi
Secretary, Department of Health, Sindh

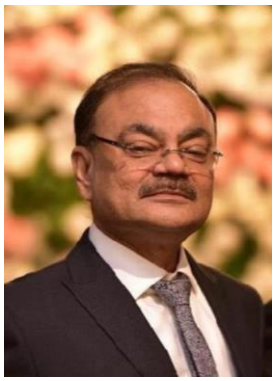
As Sindh province is a main economic hub of Pakistan, it houses some of Pakistan's largest slums with the highest number of unvaccinated children in the world. Because immunization is considered one of the most cost-effective public health interventions, high coverage remains a priority for the Ministry of Health (MOH) in Karachi and nationwide.

Development of this Roadmap, and the accompanying background research, were conducted to obtain a comprehensive understanding of routine immunization service delivery as well as the challenges and barriers to accessing and utilizing immunization services in the urban settings of Karachi.

The recommendations in the *Roadmap for Achieving Universal Immunization Coverage in Karachi, Pakistan, 2019-2022* are invaluable for strengthening routine immunization services and achieving equitable coverage among different populations in Karachi.

The Department of Health of the Government of Sindh would like to acknowledge the gains and efforts made by the Sindh Expanded Program on Immunization and its partners to reach more children and reduce unnecessary illness and death. I firmly believe the plans included in this document will help us achieve our vision of "Health for All."

FOREWORD



Dr. Muhammad Akram Sultan
Project Director, Expanded Program on Immunization (EPI), Sindh

The Sindh EPI has been working to improve routine immunization coverage in Sindh since 1978. As with any health intervention, without the coordination and cooperation of our partners, achievements would not be possible. The EPI would like to thank Gavi, the Vaccine Alliance, and JSI Research and Training Institute consultants for supporting the development of the *Roadmap for Achieving Universal Immunization Coverage in Karachi, Pakistan, 2019-2022* through the Partner Engagement Framework in Pakistan.

The EPI acknowledges the many individuals with the Government of Sindh; the Minister of Sindh for Health and Population Welfare; the Secretary of Health; the Director General of Health; the Emergency Operations Cell at Sindh; the Federal EPI team; the Lady Health Worker Program of Sindh; Karachi Municipal Corporation, District Municipal Corporation, and District Council Karachi officials; District and Town Health Management teams and District Polio Control Room; EPI partner staff, including the World Health Organization, the United Nations Children's Fund, Acasus, the Civil Society Human and Institutional Development Programme (CHIP), and other civil society organizations; the Pakistan Pediatric Association; the Pakistan Medical Association; and all the mothers, fathers, and community leaders who have contributed time, experience, and other resources to the background analysis that led to the development of the recommendations found in this Roadmap.

We would also like to thank JSI Research and Training Institute's technical consultants, moderators, enumerators, and other staff who contributed heavily to data collection, synthesis, and analysis, technical review, and support for the finalization of the document.

Each of the contributors, partners, and stakeholders have helped create what we hope is an informative and useful document that will help us strengthen the quality of routine immunization services in Karachi, reach more children with lifesaving vaccines, and protect our children from vaccine preventable disease.

CONTENTS

ACRONYMS

ADHO	Assistant District Health Officer
AEFI	Adverse events following immunization
AKHSP	Aga Khan Health Service, Pakistan
AKU	Aga Khan University
BCG	Bacille Calmette-Guerin vaccine
BHU	Basic Health Unit
CBC	Cantonment Board Clifton
CBV	Community-based
CCE	Cold chain equipment
CCEOP	Cold Chain Equipment Optimization Plan
CHIP	Civil Society Human and Institutional Development Programme
CHS	Community health solutions
CHW	Community Health Worker
CMO	Chief Medical Officer
CSO	Civil Society Organization
DCK	District Council Karachi
DG	Director General
DHO	District Health Office/Officer
DHS	Director Health Services
DMC	District Municipal Corporation
DOH	Department of Health
DPCR	District Polio Control Room
DSV	District Superintendent of Vaccinators
DTHO	Deputy Town Health Officer
EI	Essential immunization
EOC	Emergency Operations Cell
EPI	Expanded Program on Immunization
FGD	Focus group discussion
FP	Focal person
GAVI	Gavi, The Vaccine Alliance
GIS	Geographic Information System
GOS	Government of Sindh
GP	General Practitioner
HANDS	Health and Nutrition Development Society
HF	Health facilities
HR	Human resource
HRUC	High Risk Union Council
HSS	Health service strengthening
IDI	In-depth interview
IHN	Indus Health Network
IEC	Information Education and Communication
ILR	Ice-lined refrigerator
IPV	Inactivated polio vaccine
IRD	Interactive Research and Development
JSI	John Snow Research and Training Institute

KV	Kulsoom Valika
KPI	Key Performance Indicator
KMC	Karachi Municipal Corporation
LHS	Lady Health Supervisor
LHW	Lady Health Worker
MCH	Mother and Child Health
MDTF	Multi-donor trust fund
MICS	Multiple Indicator Cluster Survey
MNCH	Maternal, newborn and child health
MO	Medical Officer
MOH	Ministry of Health
MPH	Municipal Public Health
MOU	Memorandum of Understanding
MOV	Missed opportunity for vaccination
NEAP	National Emergency Action Plan
NGO	Nongovernmental organization
NID	National immunization day
NICH	National Institute of Child Health
NIPS	National Institute of Population Studies
NISP	National Immunization Support Programme
OPV	Oral polio vaccine
PBV	Performance-based funding
PCCHI	Pakistan CSOs Coalition for Health and Immunization
PCM	Post Campaign Monitoring
PCV	Pneumococcal conjugate vaccine
PD	Project Director
PDHS	Pakistan Demographic and Health Survey
PEI	Polio Eradication Initiative
PHC	Primary health care
PKR	Pakistani rupee
PMA	Pakistan Medical Association
POL	Petroleum, oil, and lubricants
PPA	Pakistan Pediatric Association
P&D	Planning and Development Department
RI	Routine immunization
SESSI	Sindh Employees Social Security Institution
SGD	Sindh Government Dispensary
SHRUC	Super High Risk Union Councils
SIA	Supplementary Immunization Activity
SINA	SINA Health, Education and Welfare Trust
SMD	Senior Medical Director
SMDMPH	Senior Medical Director of Municipal Public Health
SNID	Sub-national immunization day
SOP	Standard operating procedure
TAG	Technical Advisory Group
THO	Town Health Office/Officer
TKF	Tameer e Khalaq Foundation
TOR	Terms of Reference
TSV	Town Supervisor of Vaccinators

TWG	Technical Working Group
UC	Union Council
UCCSO	Union Council Communication Support Officer
UCMO	Union Council Medical Officer
UCPO	Union Council Polio Eradication Officer
UIC	Universal Immunization Coverage
UNICEF	United Nations Children's Fund
VLMIS	Vaccine Logistics Management Information System
WHO	World Health Organization
ZM	Zindagi Mahfooz child immunization registry
ZMT	Zubaida Machiya Trust

BACKGROUND

Pakistan is urbanizing rapidly, with about 36.4% of the national population residing in urban areas[1]. Sindh province is among the most urbanized provinces in Pakistan, with 52% of the population living in urban areas, indicating a massive shift from rural to urban parts of the country[2]. Despite increasing urbanization, there are countrywide inequities in full immunization coverage with basic vaccines between the richest (80%) and poorest (38%) people in both rural and urban population of Pakistan[3]. As per estimates, 13 million people live in the slums and underserved areas of 10 mega cities, harboring the highest number of unimmunized children, with inequities among the urban poor and urban rich. Seven million (53%) of the 13 million who live in slum environments nationally reside in the slums/underserved areas of Karachi.

Located in Pakistan's Sindh province, Karachi has a population of over 16 million, making it the largest city in Pakistan.[4] People of various linguistic and religious origins from different parts of the country migrate to Karachi for economic, educational, and political opportunities. Administratively, the mega-city is divided into six districts, which are broken down into 18 towns and further divided into 178 Union Councils (UCs) and 10 cantonment areas[5] (Note: the Emergency Operation Cell for Polio (EOC) has divided UC 4 of Gadap town into 5 zones/UCs for better management, making 192 UCs) (Figure 1).

[1] Pakistan Bureau of Statistics, Government of Pakistan. 2017. *2017 Census of Pakistan*. Accessed January 2020: http://www.pbs.gov.pk/sites/default/files//DISTRICT_WISE_CENSUS_RESULTS_CENSUS_2017.pdf

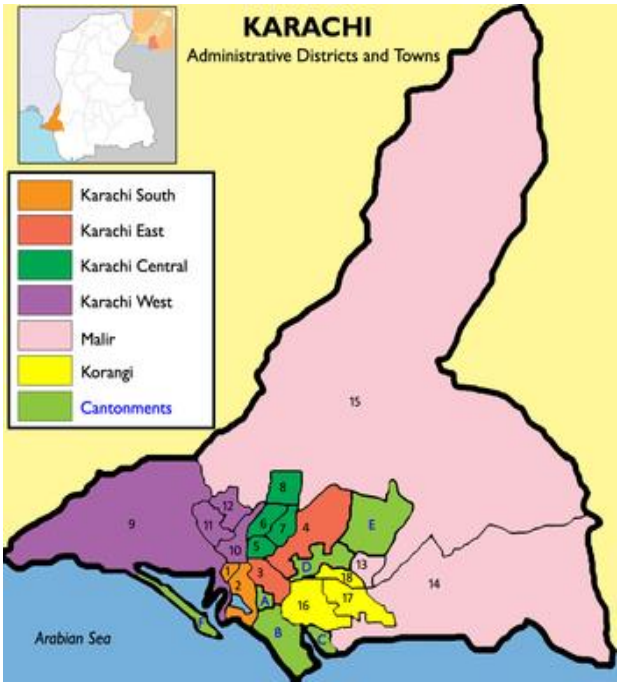
[2] Pakistan Bureau of Statistics, Government of Pakistan.

[3] National Institute of Population Studies (NIPS) [Pakistan] and ICF. 2019. *Pakistan Demographic and Health Survey 2017-18*. Islamabad, Pakistan, and Rockville, Maryland, USA: NIPS and ICF.

[4] Pakistan Bureau of Statistics, Government of Pakistan.

[5] Commissioner, Karachi Division, Government of Sindh. Accessed January 2020 https://commissionerkarachi.gos.pk/districts.html.

Figure 1: Administrative Structure of Karachi



Towns per District

- Karachi South
  1. Lyari
  2. Saddar
- Karachi East
  3. Jamshed
  4. Gulshan and UC 4 Gadap
- Karachi Central
  5. Liaquatabad
  6. N. Nazimabad
  7. Gulberg
  8. North Karachi
- Karachi West
  9. Kemari
  10. SITE
  11. Baldia
  12. Orangi [+ 5 UCs of Gaddap town]
- Malir
  13. Malir
  14. Bin Qasim
  15. Gadap
- Korangi
  16. Korangi
  17. Landhi
  18. Shah Faisal

Nearly half (7 million, i.e. 45.5%) of Karachi's population live in 988 slum areas, with only 6% of these slum populations officially registered or legally regularized.[6] Infant and under-5 mortality rates in Karachi and urban Sindh are highest compared to other provinces in Pakistan; 50 and 56 per 1000 live births, respectively. Similarly, the prevalence of malnutrition (stunting, underweight, and wasting) is very high among under-5children in the province (45.5%, 41.3%, and 23.3% respectively[7]).

The Pakistan Demographic and Health Survey (PDHS) of the Sindh Province (2017-18) shows a slight increase in full immunization coverage with basic vaccines[8] in the urban areas of the province from 54% in 2012 to 66% in 2017-18.[9] However, frequent outbreaks of measles occur and polio continues to circulate in the city of Karachi. The Multiple Indicator Cluster Survey (MICS) of Karachi in 2014 found low immunization coverage in all districts of Karachi, but coverage was particularly lowest in West and Malir districts, 45% and 48%, respectively (Figure 2).[10,11] Furthermore, PDHS (2017-18) found countrywide inequities in coverage between the richest (80%) and poorest (38%) people in both rural and urban population of Pakistan.[12]

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[6] Ministry of Climate Change, Government of Pakistan. 2015. *National Report of Pakistan for HABITAT III*, Islamabad, Pakistan.

[7] National Institute of Population Studies - NIPS/Pakistan and ICF.

[8] PDHS and MICS surveys defined basic vaccinations and full immunization coverage as one dose each of BCG and Measles and 3 doses of both Pneumococcal conjugate vaccine (PCV) / Penta and oral polio vaccines (OPV).

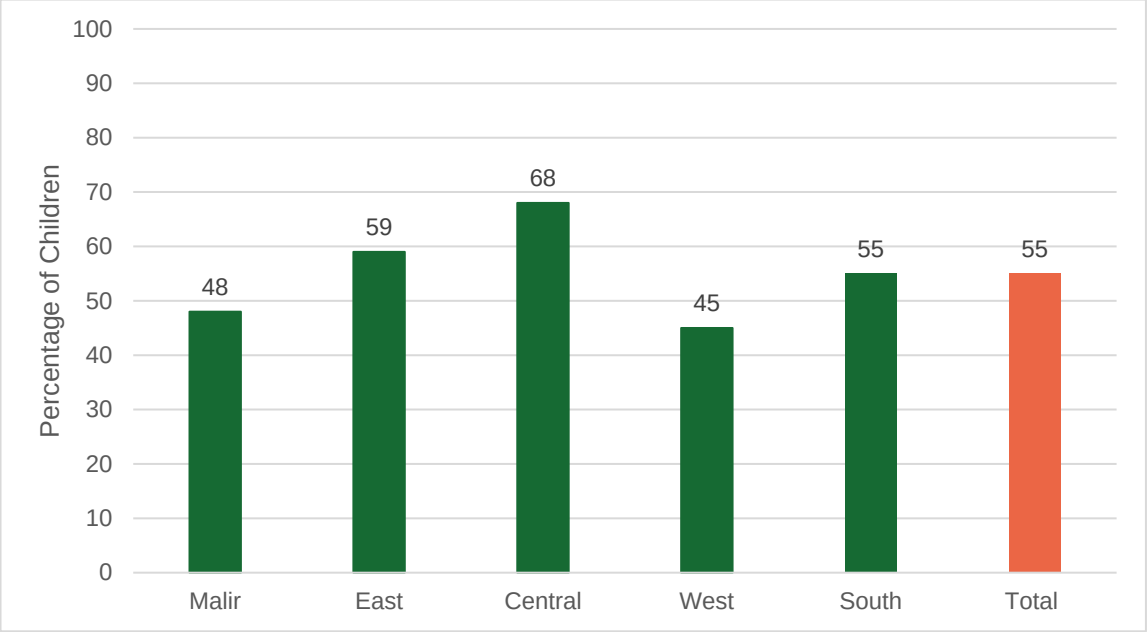
[9] National Institute of Population Studies – NIPS/Pakistan and ICF.

[10] Sindh Bureau of Statistics and UNICEF, 2015. *Sindh Multiple Indicator Cluster Survey 2014*, Final Report. Karachi, Pakistan: Sindh Bureau of Statistics and UNICEF.

[11] Note: At the time of the survey, Karachi was only divided into 5 districts.

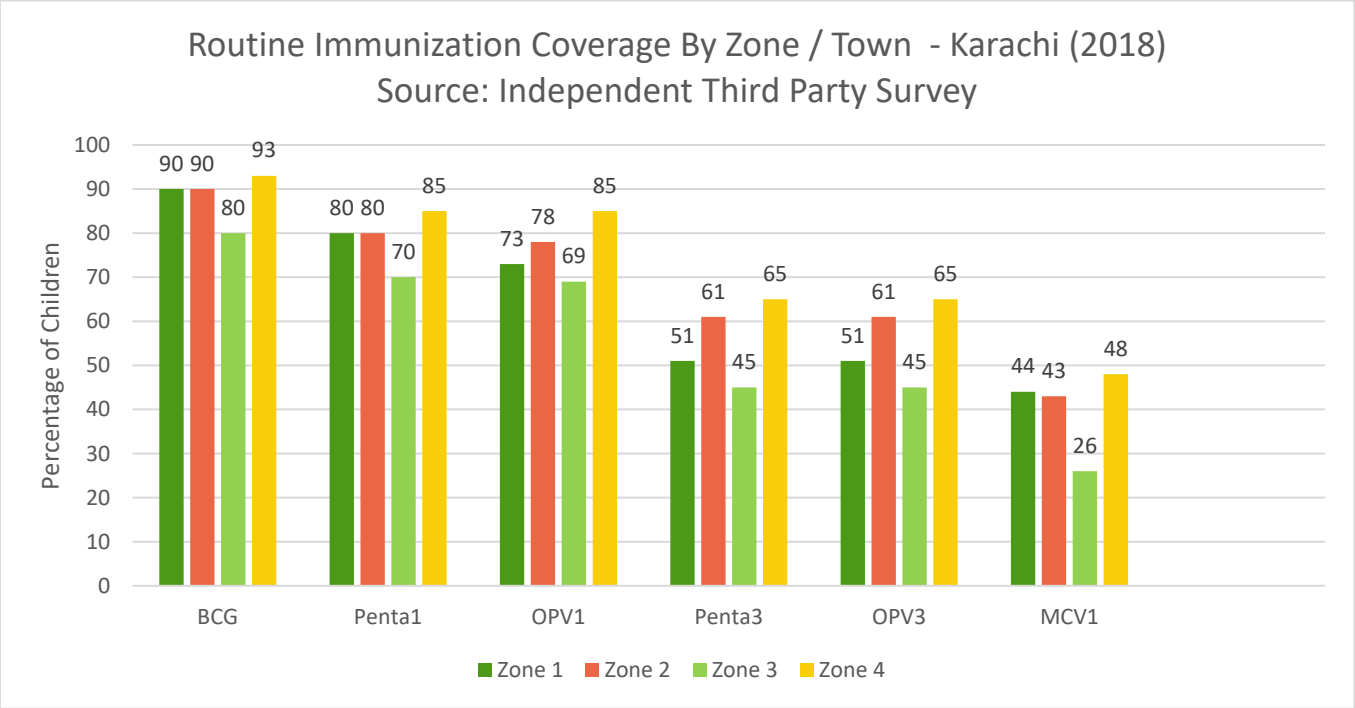
[12] National Institute of Population Studies – NIPS and ICF.

Figure 2: Full Immunization Coverage in Karachi, by District (MICS 2014)



The Independent Polio and Routine Immunization (RI) survey conducted in June 2018 by a third party[13] showed that Bacille Calmette-Guerin vaccine (BCG) coverage is high (over 80%) in all zones. Penta1 coverage was lower than for BCG but still at a higher level (80% or above in all but zone 3), indicating proportionally good access to immunization services, with Oral Polio Vaccine (OPV1) coverage a bit lower than Penta1 (except in Zone 4, where coverage for both antigens was 85%). However, Penta3, OPV3, and Measles coverage was significantly lower in all zones and lowest in zone 3 (Gadap town in Malir District) and zone 1 (Baldia, Kemari and Orangi towns in Karachi West District), also indicating low utilization of services in Malir and Karachi West Districts (Figure 3).

Figure 3: BCG, Penta1, OPV1, Penta3, OPV3 and Measles (MCV1) coverage by CBA Zone / Town in Karachi (2018)



Mapping of zero-dose children during polio post campaign monitoring (PCM) rounds 1-4 (2018) follows a similar trend. Data show that the highest number of zero-dose children were located in Karachi West District (Baldia and Kemari towns), Malir District (Bin Qasim and Gadap towns), and Karachi Central District (North Karachi, and Liaquatabad towns) [14].

A survey conducted in Karachi slums by the Pakistan CSOs Coalition for Health and Immunization (PCCHI) (2017) found that only 11% of children completed vaccination doses up to measles, and that 13% were on track, 36% were incomplete (partially immunized) and 40%

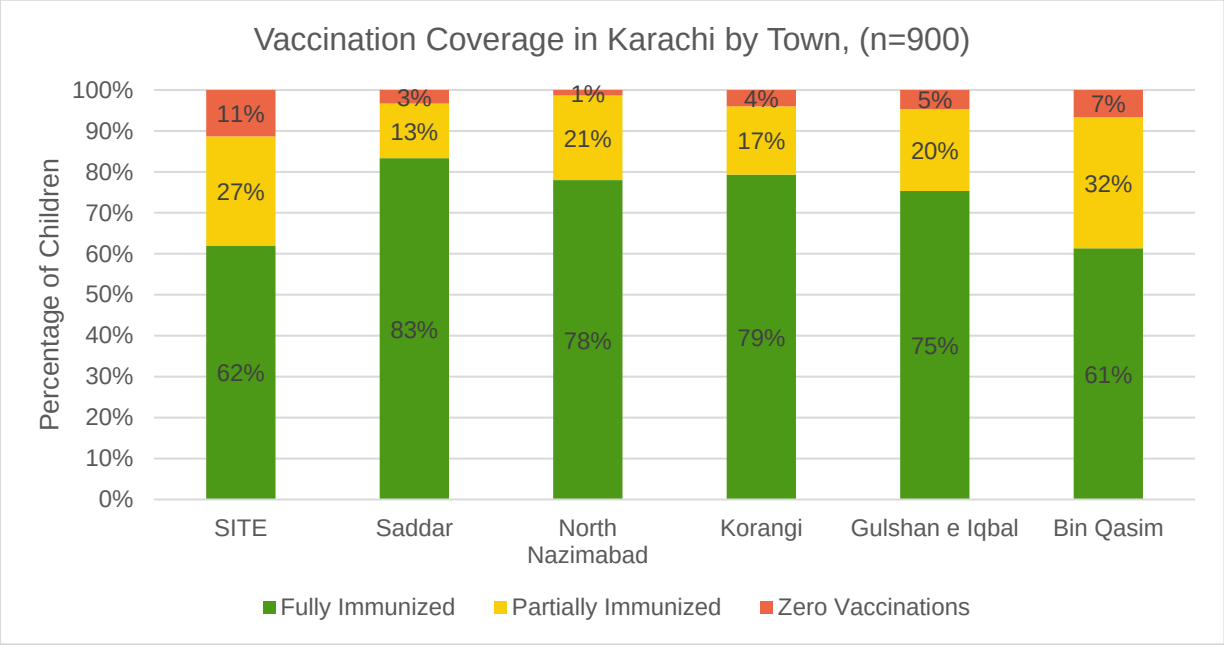
[13] National Emergency Operations Cell. *Community Based Vaccination Under 1 Routine Immunization Survey*. 2018. Karachi.

[14] Polio Post Campaign Monitoring Estimates. 2018. Provided by Gavi, Equity Presentation.

were never vaccinated (zero-dose)[15]. The percentage of zero-dose children was higher among females (55%) than males (45%)[16].

A small-scale survey (n=900) was conducted by JSI Research and Training Institute, Inc. (JSI) consultants in one selected town in each of the six districts in Karachi in 2018-2019. The survey found that Site Town (located in Karachi West District), and Bin Qasim town (located in Malir District), had the lowest full immunization coverage (62% and 61%, respectively) and highest zero-dose (11% and 7%, respectively) among children 12-23 months. Saddar and North Nazimabad had higher full immunization coverage and lower zero-dose. Full immunization coverage[17] varied in towns between 61%-83%, partial between 13% and 32%, and zero vaccinations (zero-dose) at 1% -11% among children aged 12–23 months (Figure 4).

Figure 4: Vaccination Coverage in Karachi by Town, (n=900)



The above data point to the need for a plan that can ensure Universal Immunization Coverage (UIC) as a sustainable and equitable service provision for all children in Karachi. In 2019, the Sindh EPI, supported by Gavi, the Vaccine Alliance (Gavi), and in collaboration with other entities within the Government of Pakistan, implementing partners, stakeholders, and communities, have therefore developed this *Roadmap for Achieving Universal Immunization Coverage in Karachi*.

Additional analysis from the Pakistan Polio Eradication Initiative (PEI) has identified eight super high-risk UCs (SHRUCs) as strongholds for polio circulation in Karachi; therefore, a recent Technical Advisory Group (TAG) held in December 2019 on polio eradication in Pakistan

[15] Zero dose children are defined as any child below 2 years of age who has not received any dose of routine immunization.

[16] UNICEF/Pakistan CSO Coalition for Health and Immunization (PCCHI). 2017. *Micro Census Report on Status and Barriers to Immunization in Urban Slums of Sindh, Karachi and Hyderabad*.

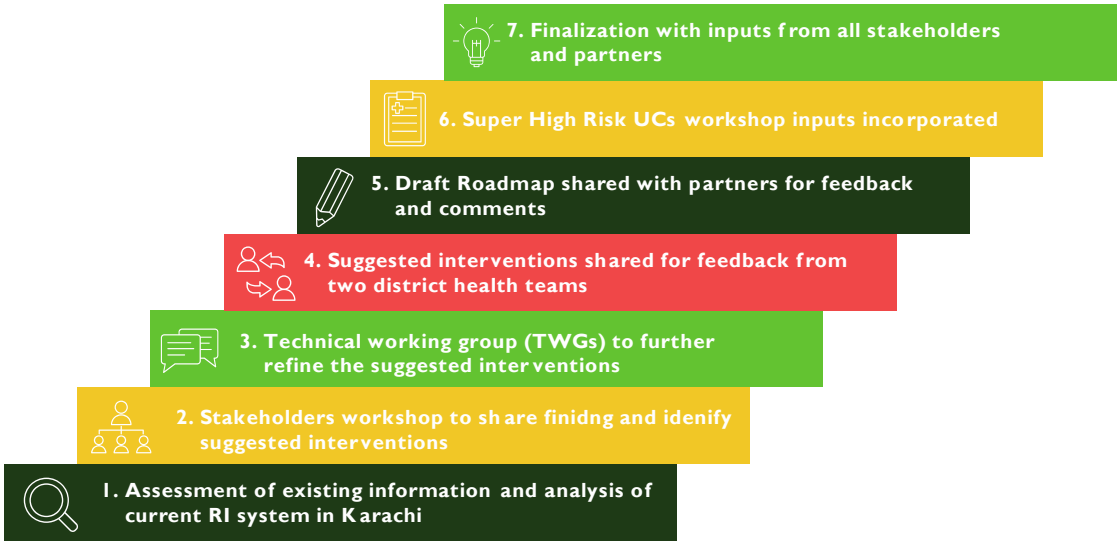
[17] Full Immunization Coverage was defined in this survey as one dose each of BCG, Measles, and IPV and three doses each of OPV, Penta, and PCV. IPV was introduced in 2015 and added to the definition of full immunization coverage for this survey.

recommended providing "laser focus" on these areas. With chronically low routine immunization coverage and high levels of refusal recorded during polio Supplementary Immunization Activities (SIAs) in these SHRUCs, there is a demonstrated need to strengthen their Essential Immunization (EI)[18] services. In addition, the PEI also identified 26 high-risk UCs (HRUCs) as focal points for EI in the city. After these eight SHRUCs, focus will be extended to 26 HRUCs and the remaining UCs to achieve the universal immunization coverage in Karachi.

ROADMAP DEVELOPMENT PROCESS

This Roadmap was conducted in seven steps, as demonstrated in Figure 5 below.

Figure 5: Processes Used for Roadmap Development



1. ASSESSMENT OF ROUTINE IMMUNIZATION SYSTEM IN KARACHI

From late 2018 to early 2019, with support from Gavi, JSI consultants assessed the RI system in Karachi; this included situation, landscape, and bottleneck analyses. The assessment was based on quantitative and qualitative data collected from stakeholders, beneficiaries, communities, partners, and collaboration between RI and polio eradication activities. In addition, a desk review of existing survey data and reports of different entities was conducted. This research helped to understand current RI program management and services delivery, and to identify RI gaps, challenges, barriers, and opportunities. In addition, a JSI consultant used existing Geographic Information System (GIS) data, available from the Expanded Program on Immunization (EPI) and other partners, to remotely map health facilities, vaccinators, and cold chain equipment (CCE) in Karachi city. The maps helped determine the equity of their distribution in relation to the size of the population they served and included slum locations and population densities. The findings of the assessment informed the development of the

[18] "Essential Immunization" is the EOC's preferred term for routine immunization and is used in EOC-related documents.

interventions outlined in this document to improve RI services in Karachi. The methodology for the assessment and bottleneck analysis findings are included in Annexes 4-5.

2. STAKEHOLDER'S WORKSHOP

A two-day workshop was conducted from April 29th-30th, 2019 with government officials (national, provincial, and city health officials), nongovernmental organizations (NGO), stakeholders, and partners to share the assessment findings. Participants engaged in group discussions to refine and develop interventions for overcoming the challenges and barriers to RI services that were identified by the stakeholders and in the background assessment. During the workshop, three main objectives were identified: to strengthen governance and accountability; to address gaps in service delivery and logistics; and increase demand, knowledge and trust in vaccines and health services.

3. TECHNICAL WORKING GROUPS

Following the workshop, technical working groups (TWGs) were formed based on the three main agreed upon objectives—one for governance, program management, coordination and accountability; one for service delivery; and one for demand generation–with participation by stakeholders and partners to conduct further reviews and recommendations for the Roadmap interventions identified during the assessments and stakeholder workshop. Following the TWGs, all final interventions were compiled and included in this draft Roadmap.

4. DISTRICT HEALTH TEAMS

Findings from the Roadmap assessment and the interventions developed by the participants in the stakeholder's workshop were also shared with the district health management teams and partner staff in two districts for their inputs and feedback.

5. PARTNER FEEDBACK

The final draft Roadmap, consolidating the above inputs, was shared with government counterparts, all stakeholders, and Gavi for feedback and comments.

6. SUPER HIGH RISK UNION COUNCILS (SHRUC) WORKSHOP

A workshop, led jointly by the PEI and the EPI, was conducted from December 10th-11th, 2019 in Karachi to develop an operational plan for SHRUCs. The workshop identified a common understanding of the status, gaps and barriers for the EI program in each of the 8 SHRUCs, and developed potential solutions for reaching zero-dose and under-immunized children and reducing Penta-1 to Penta-3 dropout rates. The action plan outlined in detail how to implement the recommendations, including expanding EI services in non-traditional ways, working with communities, and integrating services to increase community participation in achieving high immunization coverage. The action plans from the SHRUC workshop were incorporated and harmonized with the Roadmap and drawn from for the outline the Gujro Action Plan. The draft action plans, including a timeline and the roles and responsibilities developed in the workshop, are attached in Annex 6.

7. FINALIZATION OF THE ROADMAP

This Roadmap was updated and finalized, incorporating comments and inputs from all the government counterparts, stakeholders, partners, and Gavi. The costing of the interventions was done with the involvement and collaboration of both the Federal and Sindh EPI, EOC, the United Nations Children's Fund (UNICEF), the World Health Organization (WHO), and others.

ROADMAP PRIORITY AREAS AND POPULATIONS

The Roadmap's priority population is the urban poor who live in the informal settlement areas inside and at the outskirts of Karachi city and who have poor RI coverage due to economic and social reasons. The prioritized towns are based on the findings from the MICS, PDHS, EOC, and the JSI surveys mentioned above. The selection criteria include estimates of Penta 3 and OPV3 coverage (<60%), zero-dose (30% or more), and an inadequate ratio of EPI Centers and vaccinators to population density as determined by the analysis of current RI services in Karachi. In addition, 8 SHRUCs and 26 HRUCs identified for PEI are included as focal points for RI improvement (Table 1).

However, for achieving Universal Immunization Coverage, the Roadmap interventions target Karachi city as a whole, since full immunization coverage is low across all of the towns. The strategies adopted in the Roadmap are meant to improve and strengthen the entire RI system, focusing on addressing inequities; improving supervision, monitoring, and accountability; and improving demand for utilization of RI services by the disadvantaged population of Karachi.

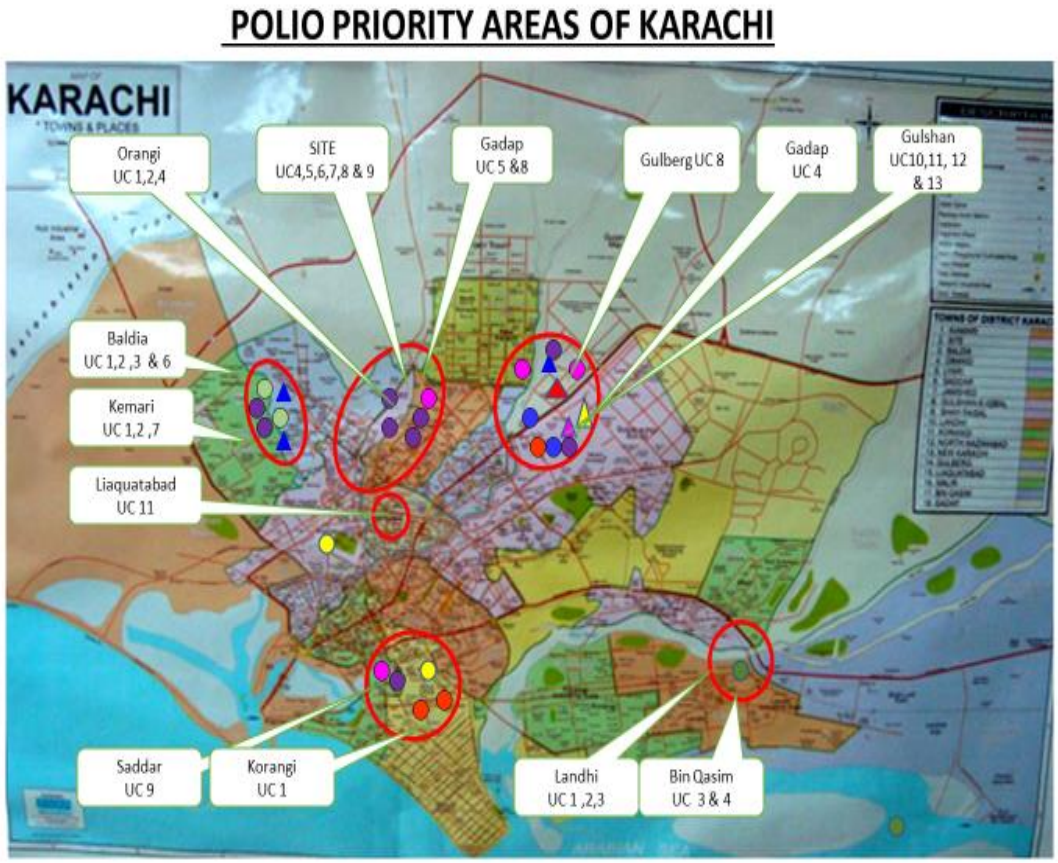
Table 1: Priority Districts, Towns, and UCs

Low Penta 3 / OPV3 coverage rate (<60%)	• District Malir: Gadap town • District Karachi West: Baldia, Kemari, and Orangi towns
High zero-dose (30% or more)	• District Karachi West: Baldia and Kemari towns • District Malir: Bin Qasim town • District Karachi Central: North Karachi and Liaquatabad towns
Inadequate EPI Centers and Vaccinators (see annexes 1-3)	• District Malir: Gadap and Bin Qasim towns • District Karachi East: Korangi • Slum areas
8 Super high risk UCs	• District Karachi East: UC 4 of Gadap town • District Karachi West: UCs 5,8 of Gadap; UC 2 of Baldia; UC 7 of Orangi; UC 9 of SITE towns • District Malir: UCs 1,2 of Landhi town
26 High Risk UCs	• District Karachi East: UCs 10,12,13 of Gulshan Iqbal; UC 11 of Jamshed towns • District Karachi Central: UC 8 of Gulberg; UCs 2,10 of Liaquatabad; UCs 1, 2 of N.Nazimabad; UC 9 of North Karachi towns • District Malir: UCs 2,4 of Bin Qasim town • District Karachi South: UC 9 of Saddar town • District Karachi West: UCs 1,3,4 of Baldia town; UCs 6,7 of Gadap town; UCs 1,2 of Kemari town; UCs 1,13 of Orangi town; UCs 6,7,8 of SITE town

Note: Most of the recent polio cases and sites with positive environmental samples belong to 34 HRUCs with similar population characteristics and trends, out of which eight UCs are categorized as SHRUCs and one, UC 4 of Gadap, is labeled as an extremely high risk.

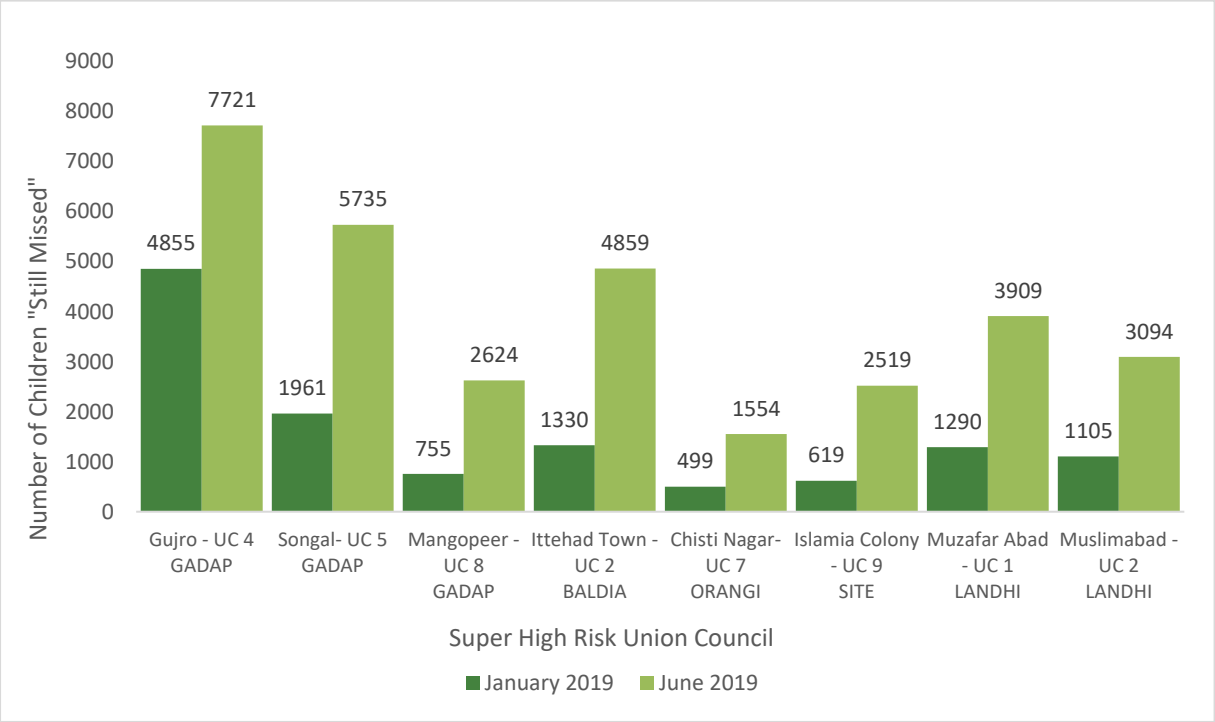
The map in Figure 6 shows the polio reservoir areas in Karachi, which was taken into account when identifying the SHRUCs and HRUCs. In addition to having identified polio cases and positive environmental samples, SHRUC and HRUCs have other commonalities: these areas have the highest number of refusals, unavailability of RI services, large cohorts of persistently missed children (PMC), frequent population movement in and out of Karachi from/to core-polio reservoir areas including Afghanistan, poor sanitation, and inadequate health care facilities.

Figure 6: Polio priority areas of Karachi (Source: SHRUC workshop)



For example, the rate of children marked as "Still Missed" during polio campaigns increased in all SHRUCs from January 2019 to June 2019 (see figure 7). There is also a group of unregistered immigrants from Afghanistan who often hesitate to share information regarding their families, including the number/age of children and guests.

Figure 7: Number of Children "Still Missed" in SHRUCs, January 2019-June 2019



ROADMAP GOAL

This Roadmap's goal is to achieve universal immunization coverage in Karachi by increasing full immunization coverage[19] from 63%[20] to 90% by 2022.

STRATEGIC OBJECTIVES

The Roadmap aims to achieve the goal of 90% full immunization coverage in Karachi (focusing on SHRUCs and HRUCs) by 2022 through the following objectives:

1. **STRATEGIC OBJECTIVE 1:** Strengthen governance, leadership, and accountability by establishing and implementing a framework at all levels (provincial, district, town, Union Council, and health facility) by 2020
2. **STRATEGIC OBJECTIVE 2:** Address gaps in the delivery of routine immunization services including gaps in funding flows and logistics in all areas equitably throughout Karachi, to increase coverage of fully immunized children by 7% in 2020, 10% in 2021, and 10% in 2022
3. **STRATEGIC OBJECTIVE 3:** Increase knowledge, trust, and demand for services with the targeted dissemination of behavior change and community mobilization strategies as well as immunization messages in order to decrease zero-dose children throughout Karachi by 7% in 2020, 10% in 2021, and 10% in 2022

As described further below, the Sindh and Federal EPI, other government stakeholders, and partners identified specific interventions to achieve these objectives and reach the ultimate goal of universal immunization coverage in Karachi as a whole, specifically in SHRUCs and HRUCs.

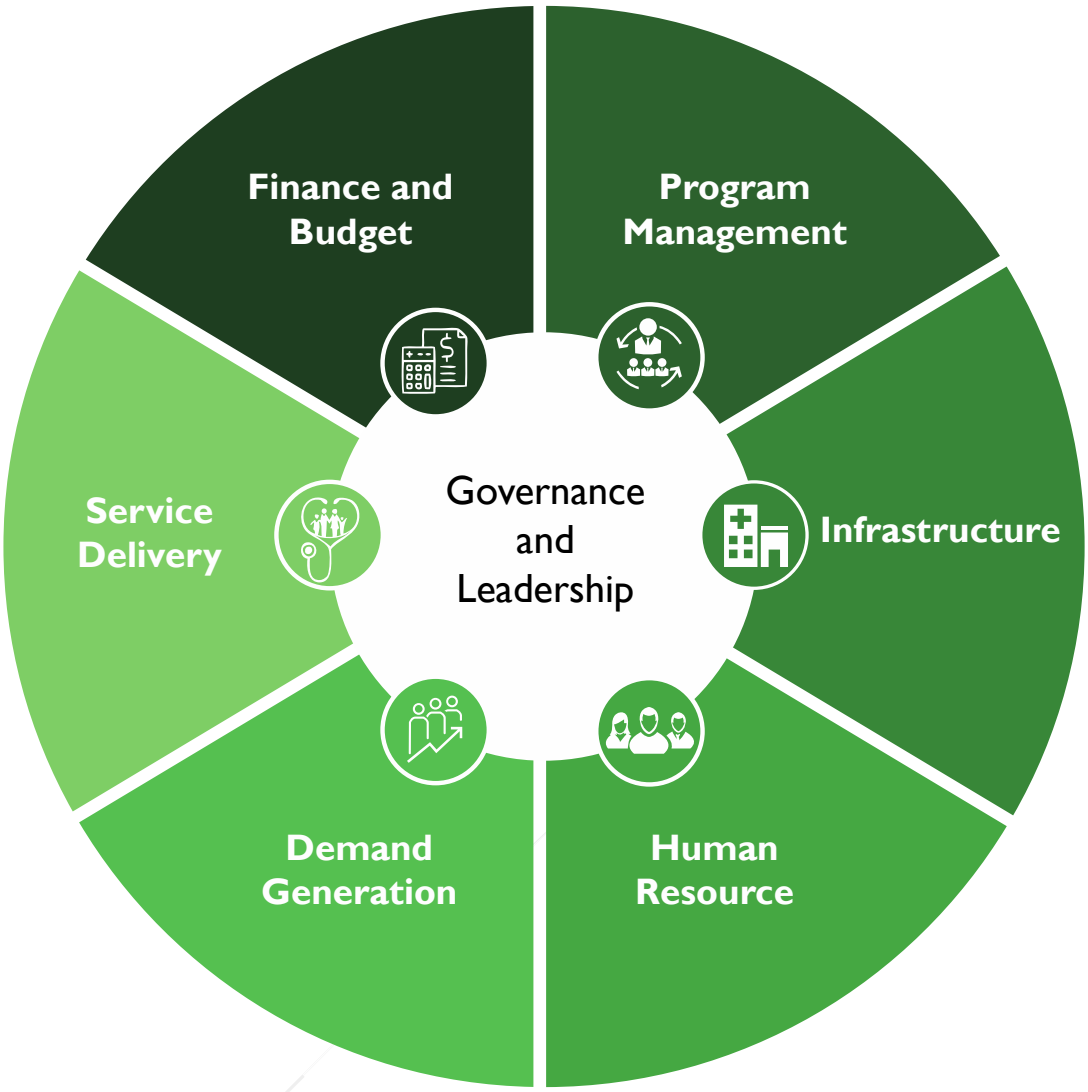
IDENTIFIED GAPS AND BARRIERS

Each of the gaps, barriers, and interventions included in the Roadmap fall within the overarching building blocks of RI systems (Figure 8). The interventions were designed by the EPI, EOC, and partners, with focus on the major gaps and barriers identified from pre-existing assessments, individual experiences, and the analysis of the current RI system in Karachi. The identified barriers are included below to understand the context related to the building blocks and demonstrate how each initiative can address these. Given the interrelatedness of the building blocks, the Roadmap assumes that the collective implementation will strengthen the system as a whole.

[19] Definition of full immunization coverage for this goal: one dose of the vaccine against tuberculosis (BCG); three doses of the vaccine against diphtheria, pertussis, tetanus, HiB, Hepatitis B (pentavalent); three doses of PCV 10; three doses of oral polio vaccine (excluding polio vaccine given at birth); and one dose of measles vaccine.

[20] National Institute of Population Studies (NIPS) [Pakistan] and ICF. 2019. Pakistan Demographic and Health Survey 2017-18. Islamabad, Pakistan, and Rockville, Maryland, USA: NIPS and ICF.

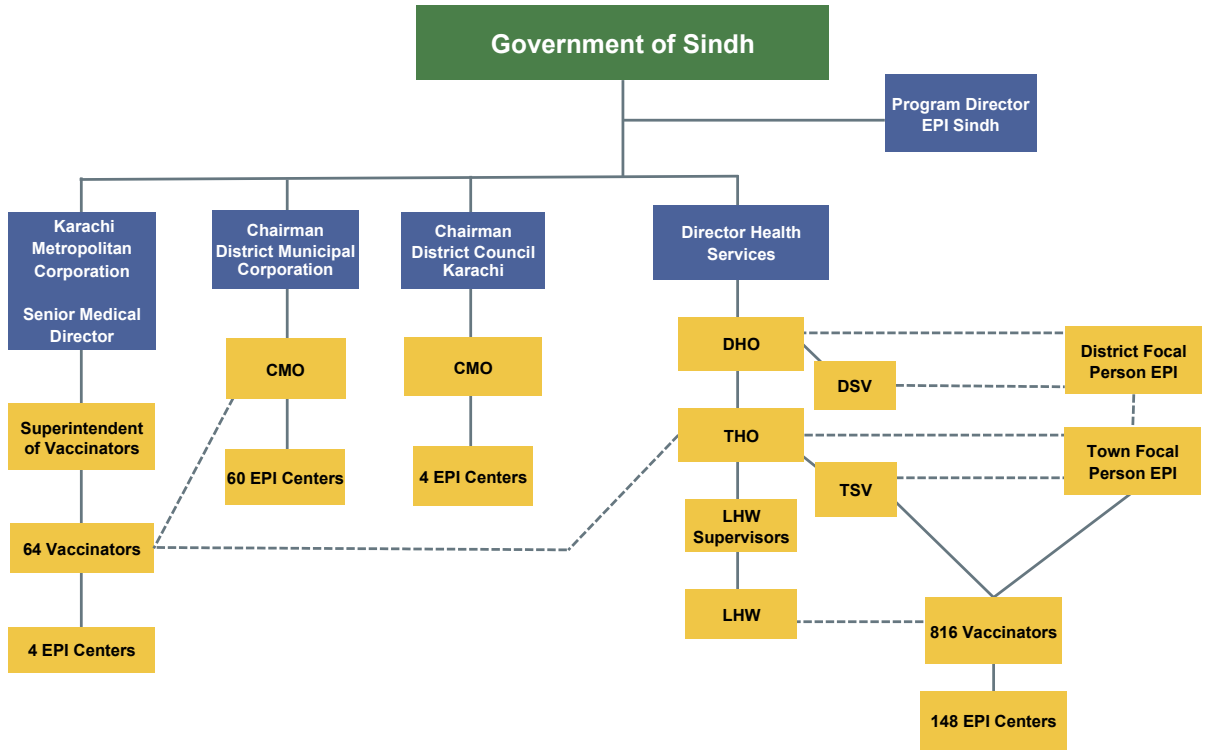
Figure 8: EPI System Building Blocks



STRATEGIC OBJECTIVE 1:
GAPS IN GOVERNANCE, LEADERSHIP, AND ACCOUNTABILITY

- Governance, leadership, and accountability of the EPI system in Karachi is highly complex with multiple management structures and fragmented service delivery systems within the Sindh EPI Directorate, Karachi Department of Health (DOH), Karachi Municipal Corporation (KMC), District Municipal Corporations (DMC), District Council Karachi (DCK), other parastatal entities (Figure 9).
- There is a lack of functional coordination between public government departments and public and private sectors.
- The responsibility for supervision of fixed and outreach vaccination sites falls under officials of different departments such as District and Town Health Offices (DHOs/Assistant District and Town Health Officers [ADHOs]/THOs), Deputy Town Health Officers (DTHOs), EPI Focal Persons (FPs), District/Town Superintendent (DSVs/Town Supervisor of Vaccinators [TSVs]), and the EPI Center In-charge.
    - Because of this multi-tier government supervision system, accountability for routine immunization work is fragmented and weak.
- Guidelines are available to make staff accountable for poor performance, but they are not enforced adequately. The steps taken by DHOs and THOs to penalize or enforce corrective actions for non-performing vaccinators are not apparent, although they have the authority to take such actions.
    - Feedback from supervisors is mostly verbal, limited to discussion during monthly meetings, and the identified problems resolved via mutual collaboration.
    - Additionally, there is no system for the recognition of improved vaccinator performance.

Figure 9: Existing Administrative and Supervisory Organogram EPI Program Sindh



STRATEGIC OBJECTIVE 2:

GAPS IN THE DELIVERY OF ROUTINE IMMUNIZATION SERVICES AND LOGISTICS

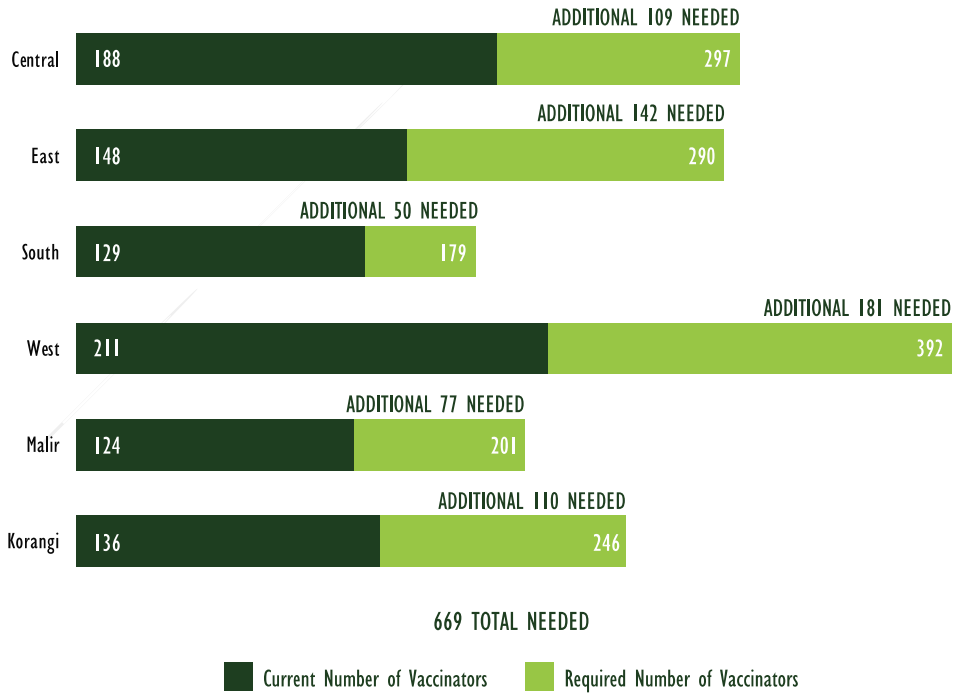
- There is a substantial lack of coordination and accountability for RI.
    - UC level RI micro plans are not developed properly and/or are not updated regularly.
    - There is lack of accountability and coordination between the lady health workers (LHWs)/community health workers (CHWs) and Vaccinators.
        - LHWs/CHWs are from the locality, know the area well, and are responsible for mobilizing people for vaccination; whereas Vaccinators are not local and come to the EPI site/outreach site on the day of vaccination.
        - The microplan validation process is also weak because of unclear roles and responsibilities.
    - Existing micro plans are not always implemented fully.
- There is an inadequate number and distribution of vaccination sites.
    - The number and distribution of health facilities (fixed EPI centers) in Karachi is inadequate, and distribution is not equitable relative to population density (see map in Annex 3).
    - Not all public health facilities provide EPI services: for example, there are 134 health facilities under the KMC, DMCs, and DCK; however, only 66 of these facilities provide EPI services. Overall, 202 health facilities (HFs) have fixed EPI centers out of 304 HFs under different Ministries of Sindh Government (Health, Labor, Local Government), and municipalities (KMC, DMCs, and DCK) (see Table 2).
    - The outskirts of Karachi city have fewer public health facilities although the city is expanding and the population is increasing quickly in these areas.

Table 2: Number of Facilities vs. Number of Facilities with EPI Centers in Karachi

Sr. #	Name	No. of Health Facilities	No. of Health Facilities with Fixed EPI Centers	Remarks
A	Public Health Facilities (Under different Ministries, local bodies)			
1	Health Dept. Government of Sindh (GOS)	153	134	Including the ones which are handed over to Health and Nutrition Development Society (HANDS)
2	Karachi Municipal Corporation (KMC)	4	66	
3	District Municipal Corporations (Six DMCs under Ministry of Local Govt.)	90		
4	District Council Karachi (Under Ministry of Local Govt.)	40		
5	Sindh Employees Social Security Institution (SESSI - Under Ministry of Labor)	17	2	
Sub Total		304	202	102 potential EPI Centers
B	Parastatal Organizations			
6	Cantonment Board Clifton (CBC)	2	0	EPI services provided one day per week (Saturday)
7	Defense Housing Authority (DHA)	1	0	EPI services provided one day per week (Saturday)
8	Karachi Development Authority (KDA)	7	0	No EPI Services provided. Have hospital on panel.
9	Malir Development Authority (MDA)	0	0	No EPI Services provided
Sub Total		10	0	10 potential EPI Centers
C	Private Health Facilities (Registered with Associations)			
10	Pakistan Pediatric Association (PPA)	425		
11	Pakistan Medical Association (PMA)/Family Physicians	1400		List not shared due to security reasons
Sub Total		1825		Only 135 Private HFs provide EPI services in Karachi
D	NGOs/CSOs			
12	Aga Khan Health Service, Pakistan (AKHSP)	33	7	
13	HANDS	31	21	
14	Al-Mustafa Medical Centers	18	3	
15	SINA Health, Education and Welfare Trust (SINA)	22	2	
16	Zubaida Machiya Trust (ZMT)	34	0	Some HFs are involved as outreach sites for RI.
17	Interactive Research and Development (IRD)/Indus Health Network	29	2	
18	Community Health Solutions (CHS)	28	0	
19	HELP	2	2	
20	Vitals Pakistan	4	4	
Sub Total		201	41	160 Potential EPI Centers
21	AKU Labs	80	0	List not provided but are ready to open EPI centers in their labs. They want to have a Memorandum of Understanding (MoU)/Legislation
22	EOC Data for HFs	10,614		5049 HFs are of Qualified Healthcare Providers (Doctors), whereas 5565 HFs belongs to Non-Qualified Healthcare Providers

- Outreach services are insufficiently conducted, ineffective, and are not providing the expected results, primarily due to:
    - Lack of monitoring and supervision
    - Lack of coordination between LHWs and CHWs responsible for mobilizing people and Vaccinators
    - Lack of logistics and transport mobility support for outreach activities, which results in negligible outreach sessions.
- The distribution of vaccinators is also inadequate.
    - Karachi needs to hire more Vaccinators in a phased manner to meet the requirements of the city's rapidly growing population. JSI's small-scale assessment showed that geographically small urban UCs with the highest population densities have fewer Vaccinators (see example in Annex 2).
    - According to the national EPI policy, there should be one Vaccinator for 10,000 people in urban areas of the country. Based on this ratio, Karachi requires 669 additional vaccinators (1,605 Vaccinators in total) to provide RI services as per National EPI policy to its population (see Figure 10).
    - There is no mechanism to replace Vaccinators who retire, die, or are suspended from the workforce in Karachi.
    - There is an inappropriate distribution of vaccinators in existing EPI centers. In some HFs, five vaccinators are working and while in others, there is only one vaccinator. Re-allocation of vaccinators is required in the city.

Figure 10: Number of Vaccinators in Karachi compared to Required Number of Vaccinators



- There are several missed opportunities for vaccination (MOV).
    - Children brought to health facilities by caregivers for other purposes are not screened for vaccination status, so they return home without vaccination even when they are eligible.
    - BCG and measles vaccinations are scheduled only for Monday and Saturday, respectively, in the majority of EPI centers. This practice defers the clients from vaccination if the due or defaulter children are brought in EPI centers for BCG and measles on days other than the fixed days for these vaccines.
    - Vaccinators also have a tendency not to open BCG and Measles vials unless enough children are available in the vaccination session. If too few children are present, they ask parents to come another day; and this practice demotivates caregivers to return to health facilities.
- The private sector health facilities are underutilized.
    - There are over ten thousand private sector providers in Karachi and only a few are involved in RI. Specifically, there are almost 2,000 private health facilities registered with associations in Karachi, but only 135 private facilities provide immunization services in collaboration with the DOH (refer back to Table 2).
    - The Government outsourced some health facilities to NGOs like the Health and Nutrition Development Society (HANDS). Other NGOs like the SINA Health, Education and Welfare Trust (SINA), the Aga Khan Health Service Pakistan (AKHSP), Al-Mustafa Welfare Trust, and others have 201 health facilities, but only 41 provide immunization services
    - Private-sector immunization providers do not receive CCE, even though the Federal EPI has developed a policy to coordinate with private facilities who provide EPI services.
- RI should be the foundation for the Polio Eradication Initiative (PEI).
    - All children should receive a birth dose and three routine doses of oral polio vaccine and one dose of Inactivated Polio Vaccine (IPV) to build immunity against polio in the community. However, as the data show, routine OPV coverage has been inadequate. Supplemental immunization activity (SIA) are to boost community immunity.
    - In Karachi, polio 3 dose coverage is below 60% in many districts/towns, therefore poliovirus is still circulating due to low community immunity. Urgent efforts are required to reach all children with 90% polio 3 dose coverage through the RI program equitably across Karachi.
    - There should be synergy and sharing of data between PEI and EPI to vaccinate zero-dose children identified during polio SIAs.
    - This is high time to address poor health and hygiene facilities in the HRUCs in Karachi and provide integrated primary healthcare (PHC) and EPI services delivery at 34 UCs (polio HRUCs) in the city
    - Supervisors need to foster good coordination between CHWs and Vaccinators to reach the zero-dose children with all three routine polio and other routine vaccines to eradicate polio and the outbreak of measles in Karachi.
- The funding flows for Financial and Transport Mobility Support is weak.
    - Not all KMC Vaccinators have motorcycles to perform outreach activities.
    - The Vaccinators who do have motorcycles have difficulty getting Government of Sindh-approved money for petroleum, oil, and lubricants (POL) and to

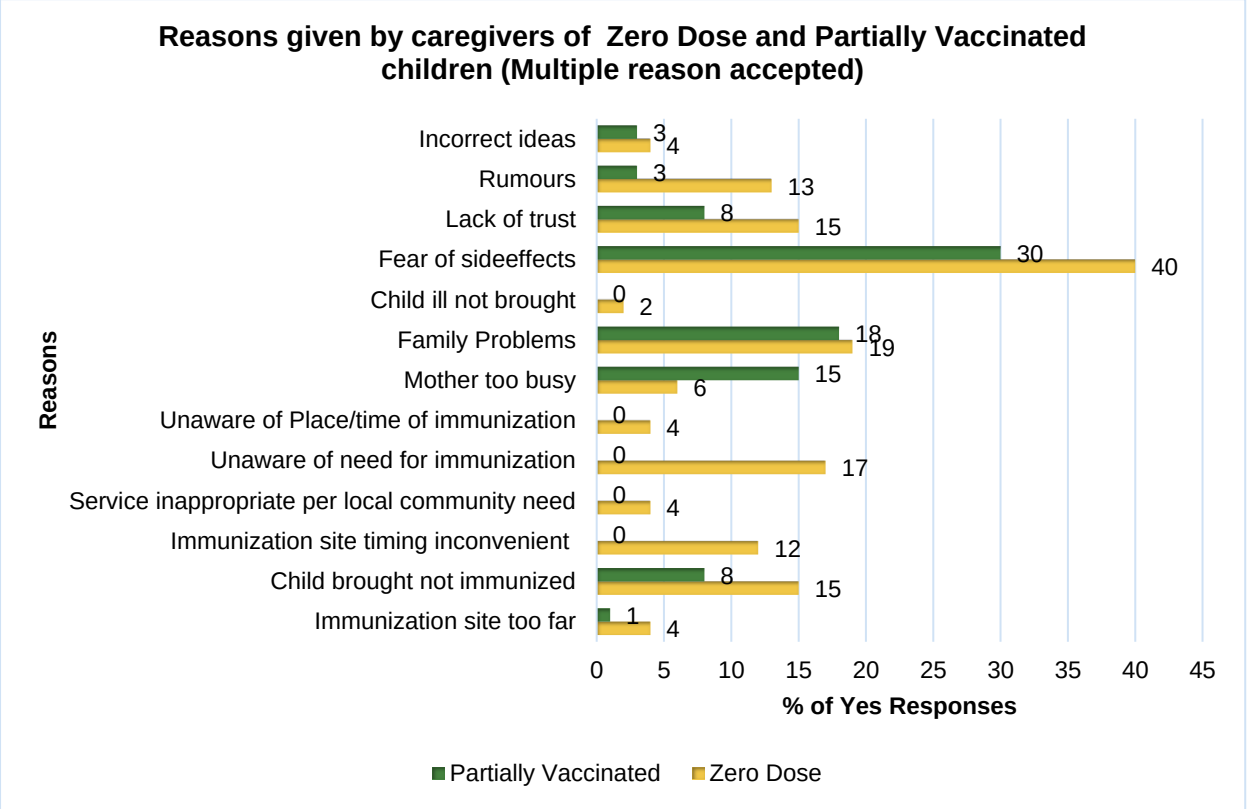
support/mobility allowance (PKR 4000 per Vaccinator per month) to perform outreach activities. The assessment showed that new Vaccinators also have difficulty in receiving salaries/POL support/mobility allowance due to cumbersome procedures, which require approvals and reporting from different sources and multiple reporting entities.
    - Female Vaccinators do not get transport support to cover public transport to the sites of outreach activities.
- Gaps in cold chain hinders services.
    - Cold chain is available for public sector service delivery but is not available for private sector expansion.
    - No dry store at provincial and district level.
    - There is shortage of cold chain technicians.

STRATEGIC OBJECTIVE 3:
GAPS IN KNOWLEDGE, TRUST, AND DEMAND FOR SERVICES

- There is no dedicated staff for social mobilization, communications and counselling to develop linkages in the communities and support vaccinators.
- There is no system for health education officers (appointed by health department in the districts of Karachi) to be fully engaged in EPI activities.
- Communities, as well as CHWs/LHWs are not fully aware about nearby EPI centers, especially outreach sites, as well as vaccination schedules (place, days, etc.).
- Vaccinators, LHWs, and CHWs have not been sufficiently trained, resulting in poor RI communication practices. For example, they often do not spend the appropriate time to inform caregivers about subsequent doses or what to do in case of adverse events following immunization (AEFI).
- There is a lack of integrated Information Education and Communication (IEC) material for advocacy, communication, and social mobilization and weak involvement of civil society organizations, local CBOs, local influential people with RI services.
- Media use (social, mass, print) is ineffective.
- There is little social accountability or Accountability Affected Populations (AAP) systems.
- The population of Karachi is highly diverse, as people migrate to Karachi from all areas of Pakistan and speak a variety of languages (17 different languages in Karachi. Accommodating the language spoken at home is critical for effective communication between mothers and health care providers. This is especially important in low-income groups residing in urban poor areas (slums), where the literacy rate is also likely to be low.
- Cultural traditions include the practice of "purdah" in many communities, which prevents mothers from attending immunization sites without men, or even speaking to LHWs/Vaccinators.
- In JSI's rapid small-scale assessment, it was found that the highest percentage of zero-dose or partially vaccinated children belonged to Pashtun- and Sindhi-speaking communities. Refusal of vaccination occurs mainly among the Pashtuns, who believe that polio drops are a western conspiracy for sterilizing Muslims, resulting high number of zero-dose children among these communities.
- In the Karachi RI assessment conducted by JSI consultants, fear of side effects following immunization was the most common reason caregivers had zero-dose children. Other common reasons given by caregivers were family problems, unawareness of need, lack of trust, children brought for immunization but not immunized, rumors, "mother too busy," and "immunization site too far" (Figure 11)[21].

[21] This rapid, small-scale survey (n=900) was conducted by JSI consultants as a part of the Karachi RI assessment

Figure 11: Reasons caregivers never vaccinated (zero-dose) and partially vaccinated their children

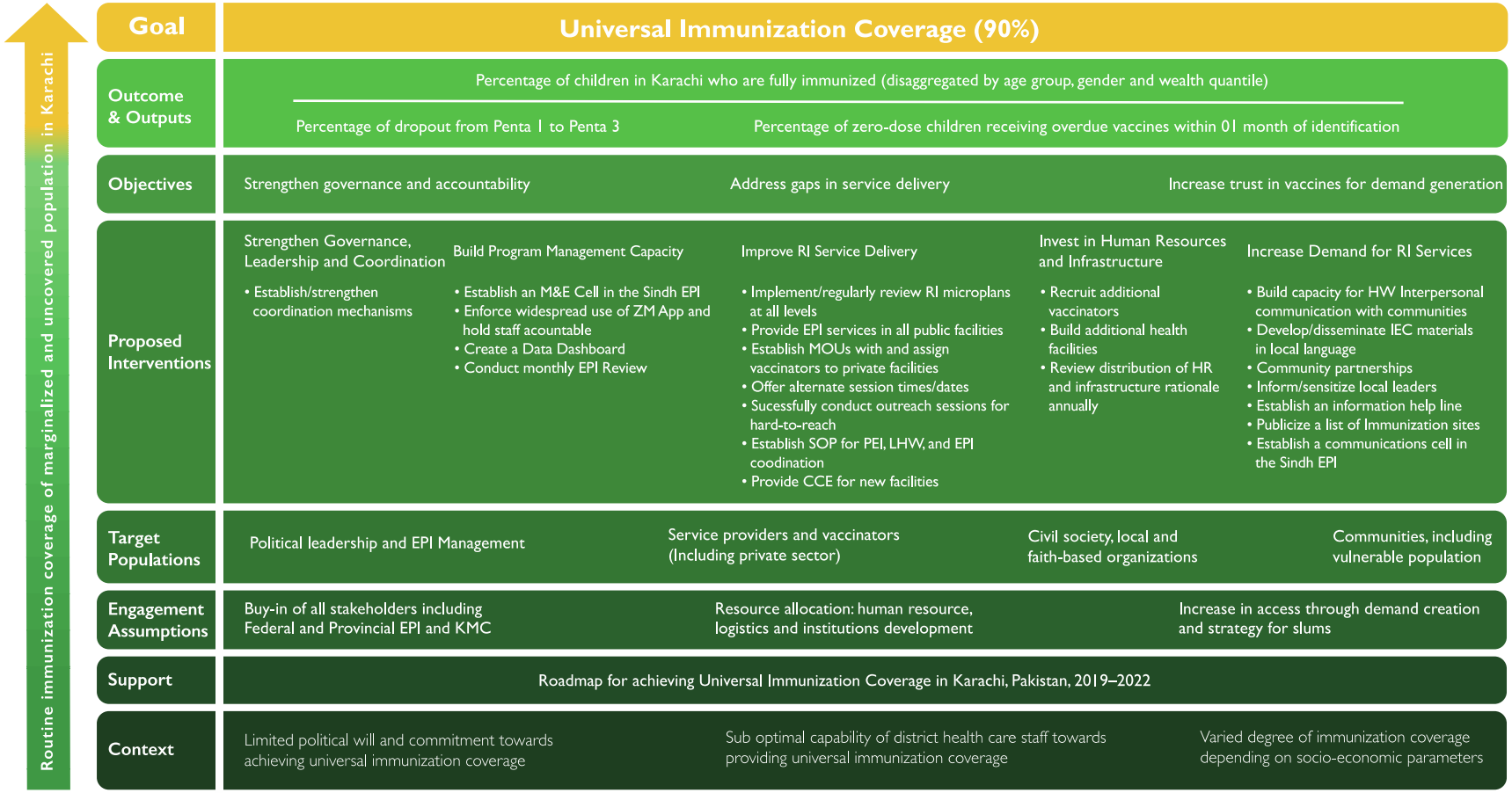


Lessons learned from 2018 measles campaign: A strategic social mobilization and communications effort during the 2018 measles campaign helped to achieve very high coverage (over 90%). These lessons can be used to improve demand generation for routine immunization as well. The campaign used mutually reinforcing advocacy, social mobilization, and communications approaches with targeted segments of the audience based on the socio-ecological model: **Primary audience** – Caregiver (Parents, grandparents, siblings and other relatives); **Secondary audience** – Teachers, religious leaders (Imams of local mosques), community elders, pediatricians, general medical practitioners, health workers and volunteers; **Tertiary audience** – Media, politicians/elected representatives, religious institutions (madrasahs), civil society organizations, and private sector health facilities. At the individual level, key messages were disseminated to motivate families and caregivers to take their children for vaccination. At the community level, community dialogues, and mobilization of CSOs and influential people were conducted to get support for the campaign. At the institutional level, interpersonal training was conducted for health workers; and at the policy level, advocacy meetings and briefings were conducted for gaining political support.

THEORY OF CHANGE

The theory of change in Figure 12 illustrates the logic this Roadmap applies to address the gaps mentioned above and achieve the goal of reaching 90% universal immunization in Karachi by 2022. The proposed interventions summarized in the theory of change are described in detail in the next section.

Figure 12: Theory of change for Roadmap Interventions



ROADMAP OBJECTIVES AND INTERVENTIONS

STRATEGIC OBJECTIVE 1:

STRENGTHEN GOVERNANCE, LEADERSHIP, AND ACCOUNTABILITY BY ESTABLISHING AND IMPLEMENTING A FRAMEWORK AT ALL LEVELS (PROVINCIAL, DISTRICT, TOWN, UNION COUNCIL, AND HEALTH FACILITY) BY 2020

Required systems and structures will be built to strengthen governance and accountability at provincial, district, town, UC, health facility, and community levels. Governance platforms will be refurbished at all levels with clearly defined roles and responsibilities. Relevant managerial staff at provincial and district levels will be trained in areas of leadership, data driven decision-making, funding flows, service delivery, and demand issues. Extra attention will be given to track the progress of action plans for SHRUCs and HRUCs. Under this strategic objective, interventions are also designed to harness the potential of academia, civil society, and the private sector. A stringent monitoring and evaluation (M&E) system will be put in place for tracking of the activities to improve performance through increased accountability. There is need to reinforce accountability rules in EPI as per government laws (E&D rules, Service removal rules, etc.). Reporting of poor performing staff by the DHO to higher levels as per policy for taking actions after completing necessary departmental procedures (Responsibility Project Director [PD]-EPI or Director General [DG] Health). Similarly, responsibilities of Vaccinators, EPI center In-charge, TSV, DSV, EPI Focal Person should be fixed as per hierarchy for accountability. Key Performance Indicators (KPIs) should be reviewed as per set targets by the EPI for monitoring of fixed, outreach sites and other activities. The related M&E Plan can be found in the monitoring and evaluation section.

Table 3a: Strategic Objective 1 interventions to strengthen governance, leadership and accountability

No.	Intervention	Responsibilities		Year 1 2020				Year 2 2021				Year 3 2022			
		Government of Sindh	Partners	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Establish/strengthen governance platforms from Provincial to Union Council levels Intended Outcome: Improved stewardship of immunization activities															
1.1	Establish and notify a provincial level task force committee under the Chief Secretary (with Secretaries Health, Local Government & Labor, Finance, P&D, EOC, PD-EPI, DG Health, Director Health Services (DHS)-Karachi and Metropolitan Commissioner KMC as Members). Convene meetings bi-annually to review the progress of immunization in the city/province including SHRUCs.	Project Director EPI/EOC Coordinator	WHO, UNICEF, ACASUS, JSI, RIZ Consultants	X		X		X		X		X		X	
1.2	Provincial Quarterly EPI review meetings include CMO of DMCs, Representatives of KMC (Metropolitan Commissioner & Senior Medical Director [SMD] Municipal Public Health [MPH]) District Council of Karachi, PPA, PMA, and Family Physicians Association (in addition to already notified members).	Project Director EPI/EOC Coordinator/Metropolitan commissioner KMC/ CMO DMCs from each District, CMO DCKs from District	WHO, UNICEF, ACASUS, JSI, RIZ Consultants	X	X	X	X	X	X	X	X	X	X	X	X
1.3	Notification/strengthening of Divisional Coordination Committee led by Commissioner of Karachi and Representatives from Mayor KMC Karachi/Municipal Commissioner, EOC, EPI, DG Health Office, 6 Deputy Commissioners Karachi, DHS Karachi, 6 DHOs, CMOs of DMCs and DCK, Representatives of EPI partners. Convene meetings quarterly to review the progress of immunization in the city including SHRUCs and HRUCs.	PD EPI, EOC	WHO, UNICEF, Acasus, JSI, RIZ Consultants	X	X	X	X	X	X	X	X	X	X	X	X

No.	Intervention	Responsibilities		Year 1 2020				Year 2 2021				Year 3 2022			
		Government of Sindh	Partners	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1.4	Establish a Coordination Committee at district level headed by Deputy Commissions and implemented by DHO, members include District Polio Control Room (DPCR) partners, CMO DMC, Representative of KMC (Municipal Health Department), Representative of District Council Karachi (in district West and Malir), Representatives from PPA, PMA, Family Health Association, Tameer e Khalaq Foundation (TKF), IRD, CSOs. Convene meetings on monthly basis to review the progress of immunization in the districts including SHRUCs and HRUCs.	Deputy Commissioner District Health Officer, District Focal person EPI	DPCR Partner Staff	X	X	X	X	X	X	X	X	X	X	X	X
1.5	All Union Council Medical Officers (UCMOs) to lead the monthly UC Coordination/Review meeting with Vaccinators lead by UCMOs and attended by Union Council Polio Eradication Officers (UCPOs), Union Council Communication Support Officers (UCCSOs), Area Supervisors, CHWs, LHSs and LHWs, to be conducted prior to the District/Town EPI review meeting	Union Council Medical officer, TSV, LHSs, Area Supervisors of CHWs	DPCR Partner Staff	X	X	X	X	X	X	X	X	X	X	X	X
1.6	Appointing a PEI-EPI Focal Point for each of the 8 SHRUCs, followed by HRUCs	Government of Sindh, EOC, EPI	Gavi, BMGF, UNICEF, JSI	X	X										
1.7	Conduct comprehensive EPI review in Karachi districts Annually	Project Director EPI	WHO, UNICEF, JSI			X				X				X	
2. Develop robust management structures at all levels Intended Outcome: Clarity in roles and responsibilities at individual and systems level															
2.1	Establish Role of PD EPI, DHOs, THOs/ADHOs and KMC, DMC, DCK.	PD EPI, EOC Coordinator	WHO, UNICEF, Acasus, JSI, RIZ Consultants	X	X										

No.	Intervention	Responsibilities		Year 1 2020				Year 2 2021				Year 3 2022			
		Government of Sindh	Partners	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
2.2	Establish clear job descriptions, accountability, and performance improvement frameworks for and with district/town managers and service delivery staff.	PD EPI, EOC Coordinator	WHO, UNICEF, Acasus, JSI, RIZ Consultants	X	X										
2.3	Finalize UC-level plans for SHRUCs with KPIs. Synch annual action plans with DHOs and UCs. Endorsement from Ministry of Finance and P&D Notification of structure and responsibilities.	EOC, EPI	UNICEF, RIZ Consultants, JSI, Acasus	X	X										
3. Build capacities of staff to optimally perform management functions Intended Outcome: Increased skills and competence of management staff at provincial, district and town levels															
3.1	Train district/town managers in leadership, service delivery, demand issues, and data-driven decision making (e.g. MLM).	PD EPI	WHO, UNICEF and other partners		X				X				X		
3.2	Train staff at newly established M&E cell in EPI office. Also, train PEI-EPI Synergy focal points and UCMOs of SHRUCs and HRUCs.	PD EPI	WHO, UNICEF and other partners		X	X									
4. Strengthen linkages and coordination for concerted efforts Intended Outcome: Leveraged support from academia, national and international NGOs															
4.1	Leverage support from national and international NGOs and academia.	PD EPI Team	UNICEF, CSOs (CHIP, Vital Pakistan, HELP etc.)	X	X	X	X	X	X	X	X	X	X	X	X

No.	Intervention	Responsibilities		Year 1 2020				Year 2 2021				Year 3 2022			
		Government of Sindh	Partners	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
5. Conduct oversight and monitoring for accountability Intended Outcome: Improved accountability of immunization activities															
5.1	Establish M&E cell in provincial EPI.	PD EPI Team	JSI (Integrated Health Systems Strengthening and Service Delivery Activity [IHSS-SD])– USAID	X	X										
5.2	Review of monthly meeting minutes in the M&E cell and track the performance	PD EPI Team M&E Team	All EPI partners		X	X	X	X	X	X	X	X	X	X	X
5.3	Share findings / updated status with decision makers on a regular basis using the Zindagi Mahfooz Digital Immunization Registry Application (ZM) child immunization registry, Vaccine Logistics Management Information System (vLMIS), Acasus M&E app results, and field observations.	PD EPI Team M&E Team	All EPI partners		X	X	X	X	X	X	X	X	X	X	X
5.4	Provide feedback to the districts based on minutes of the meetings and actions taken.	PD EPI Team M&E Team	All EPI partners		X	X	X	X	X	X	X	X	X	X	X
5.5	Develop district/town scorecards for tracking performance of each district.	PD EPI Team M&E Team	All EPI partners			X	X	X	X	X	X	X	X	X	X
5.6	Develop a supervisory framework and mechanisms at district, town and facility level and build capacity of supervisors for effective supportive supervision.	PD EPIDHS Karachi, DHO, THO, EPI Focal Person	All EPI partners DPCR Partners	X	X	X									

No.	Intervention	Responsibilities		Year 1 2020				Year 2 2021				Year 3 2022			
		Government of Sindh	Partners	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
6. Improve PEI-EPI Synergy Intended Outcome: PEI-EPI Efforts are coordinated and concerted															
6.1	Develop standard operating procedure (SOP) for service delivery workforce for implementing the PEI-EPI synergy including covering zero-dose, due and defaulted children and vaccine-preventable diseases (VPD) surveillance.	EOC Coordinator PD EPI	WHO, UNICEF, JSI, EPI Consultant (RIZ)	X	X										
6.2	Review the guidelines that is already developed by EOC together with PEI-EPI task team and adopt to strengthen PEI-EPI Synergy.	EOC Coordinator PD EPI	WHO, UNICEF, JSI, EPI Consultant (RIZ)	X	X										
6.3	EOC & EPI review the progress together on synergy at ground level and make the poor performers hold accountable particularly in SHRUCs and HRUCs.	EOC Coordinator PD EPI	WHO, UNICEF, JSI, EPI Consultant (RIZ), Acasus, IRD	X	X	X	X	X	X	X	X	X	X	X	X
6.4	Documenting lessons learned at the end of year 1 and year 3	EOC Coordinator PD EPI	WHO, UNICEF, JSI, EPI Consultant (RIZ), Acasus				X								X

STRATEGIC OBJECTIVE 2:

ADDRESS GAPS IN THE DELIVERY OF ROUTINE IMMUNIZATION SERVICES INCLUDING GAPS IN FUNDING FLOWS AND LOGISTICS IN ALL AREAS EQUITABLY THROUGHOUT KARACHI, TO INCREASE COVERAGE OF FULLY IMMUNIZED CHILDREN BY 7% IN 2020, 10% IN 2021, AND 10% IN 2022

In order to improve fixed sites services, all the governmental health facilities under different ministries (DOH, Labor [SESSI]) and Local Government (KMC, DMCs, DCK) should provide regular immunization services (frequency of service per week should be based on client-load). Similarly, a private sector engagement strategy should be developed and implemented for engaging private sector providers with PMA, PPA, and Family Physicians Association. Similarly, for outreach services, assign government vaccinators to private sector facilities on a fixed-day/date schedule. Ensure close monitoring and supportive supervision of outreach activities. The supervisory and the monitoring tiers are to be held responsible for ensuring that outreach sessions are conducted as per plan. For missed opportunities for vaccination (MOV), build a referral system in pediatric departments and EPI centers for unvaccinated children. Daily vaccination sessions should be offered in the health facilities where there is higher client load of children. For improving PEI-RI synergy, standard operating procedures (SOPs) will be developed and implemented by the service delivery workforce for enhancing PEI-EPI synergy, including covering zero-dose, due and defaulted children. EOC has already developed guidelines that should be adapted. PEI and EPI service delivery should be integrated to improve service availability, reliability & quality of services. EOC and EPI should conduct joint reviews and hold poor performers accountable. Additionally, service improvement requires filling in the existing posts and addressing funding flow issues, recruitment of vaccinators, and provision of CCE at all levels. Existing initiatives such as mobile van service, gamified videos, GSM tracking, and child registry should be continued and strengthened.

Table 3b: Strategic Objective 2 interventions for addressing gaps in delivery of routine immunization services

No.	Intervention	Responsibilities		Year 1 2020				Year 2 2021				Year 3 2020			
		Government of Sindh	Partners	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Expand reach and quality of fixed sites RI services Intended Outcome: Improved access to RI services															
1.1	Increase fixed sites for RI by engaging governmental health facilities under different ministries (DOH, Labor [SESSI]), Local Government (KMC, DMCs, DCK), should provide regular immunization services (112 new vaccination sites).	EPI, EOC, DHS, DHMT, THMT	All EPI Partners, DPCR partners	X	X	X	X	X	X	X	X	X	X	X	X
1.2	Refurbish all existing fixed EPI sites (Child friendly).	EPI, EOC	UNICEF			X	X	X	X	X	X	X	X	X	X
1.3	Address inappropriate placement of vaccinators in EPI centers and rational placement of vaccinators in EPI centers.	EPI, EOC, DHS, DHO, ADHO/THO	DPCR partners EPI Partners	X	X										
1.4	Integrate PHC and EPI services delivery at 34 Union Councils' (SHRUCs and HRUCs) in the city.	EPI, EOC, D/THMT	WHO, UNICEF		X	X	X	X	X	X	X	X	X	X	X
1.5	Offer daily vaccination services in the health facilities with a higher client load of children. All tertiary care hospitals and Mother and Child Health (MCH) centers open BCG and Measles vials daily in immunization sessions. The rest of the EPI centers increase the number of days to open BCG and measles vials based on the workload.	EPI, EOC, DHS D/THMT	DPCR partners EPI Partners	X	X	X	X	X	X	X	X	X	X	X	X
1.6	Ensuring 24/7 or at least evening shift vaccination in selected tertiary care (1-2 per district) hospitals to ensure birth dose and address the time flexibility issue for working class parents.	EPI, EOC, DHS D/THMT	DPCR partners EPI Partners	X	X	X	X	X	X	X	X	X	X	X	X
1.7	Assess missed opportunities for vaccination (MOV) and take corrective measures to reduce it.	EPI, EOC, DHS D/THMT	DPCR partners EPI Partners	X	X	X	X	X	X	X	X	X	X	X	X

No.	Intervention	Responsibilities		Year 1 2020				Year 2 2021				Year 3 2020			
		Government of Sindh	Partners	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1.8	Establish temporary Dispensaries /rented for Maternal, Newborn and Child Health (MNCH) + EPI services in underserved/slum areas with human resource for 8 SHRUCs.	EPI, EOC, DHS D/THMT	DPCR partners EPI Partners	X	X	X	X								
2. Expand reach and quality of outreach for RI services Intended Outcome: Access to RI services improved															
2.1	Integrate outreach services in conjunction with LHWs, CHWs/PEI workers, CSOs in slum areas identified using GIS supported micro-plans on vaccinators' activity.	D/THMT, UC MO/ UC EPI Focal Person, District Coordinator LHW Program	UNICEF, IRD, CSOs	X	X	X	X	X	X	X	X	X	X	X	X
2.2	Ensure the provision of vehicles/POL for vaccinators in hard to reach areas (attached with point # 4.3 below).	EPI, D/THMT	WHO, UNICEF	X	X	X	X	X	X	X	X	X	X	X	X
2.3	Involve and build capacity of LHW and CHWs to communicate with the caregivers/parents in the community the date and time of outreach services.	EPI, EOC, National Program for LHW	DPCR Partners, UNICEF, IRD	X	X	X	X	X	X	X	X	X	X	X	X
2.4	Create detailed data-informed microloans including maps of existing services and the plan for new services for each SHRUC to guide implementation and build accountability, leaning on the experience of polio.	EOC, EPI, DPCRs	All EPI and PEI partners	X	X	X	X	X	X	X	X	X	X	X	X
2.5	Prepare and update micro-plans in every quarter in all UCs, Towns and Districts using bottom-up approach leveraging polio microplans and using GIS data on vaccinator activity thru ZM.	EPI, EOC, DHO (DHS), DHMT, THMT	DPCR Partners, IRD, Acasus	X	X	X	X	X	X	X	X	X	X	X	X
3. Develop a private sector engagement strategy to engage the private sector to provide RI services Intended Outcome: Improved access to RI services															

No.	Intervention	Responsibilities		Year 1 2020				Year 2 2021				Year 3 2020			
		Government of Sindh	Partners	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
3.1	Involve private sector providers through MOU (PMA, PPA, and Family Physician Association) to provide EPI services.	EPI, EOC	WHO, UNICEF, JSI	X	X	X	X	X	X	X	X	X	X	X	X
3.2	Assign 4-6 private health facilities/clinic per Vaccinator to work on fixed-day basis during outreach sessions.	EPI, EOC	EPI Partners DPCR Partners	X	X	X	X	X	X	X	X	X	X	X	X
3.3	Provide reliable private sector with CCE by D/THMTs as per Federal EPI directives/policy.	EPI, D/THMT	UNICEF, JSI	X	X	X	X	X	X	X	X	X	X	X	X
4. Address Missed Opportunities for Vaccination (MOV) Intended Outcome: Improved access to RI services															
4.1	Train Medical Officers in the health facilities on MOV.	EPI	WHO		X	X	X	X	X	X	X	X	X	X	X
4.2	Review vaccination status of children in secondary and tertiary care hospitals and developing a referral mechanism between EPI sites and child health departments.	EPI	WHO, UNICEF		X	X	X								
4.3	Operational Research: Addressing MOVs using WHO guidelines	EPI	WHO			X	X	X							
5. Review, Hire, and Re-distribute Vaccinators and other human resources (HR) required Intended Outcome: Staff shortages mitigated															
5.1	Recruit 669 more vaccinators for Karachi to meet National EPI Policy (One per 10,000 urban population). Rationalize assignment of vaccinators and LHWs based on evidence-based microloans; new hires should be female and Pashto-speaking if possible.	SH, EPI, EOC	EPI Partners and DPCR Partners		X	X	X								
5.2	Training of newly recruited vaccinators (669)	EPI, EOC, D/THMT	WHO, UNICEF and other EPI Partners					X	X						

No.	Intervention	Responsibilities		Year 1 2020				Year 2 2021				Year 3 2020			
		Government of Sindh	Partners	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
5.3	Provide mobility services to newly recruited (669) vaccinators, i.e. motorbikes and POL. Also, provide the motorbikes to those who do not have already (1485 in total – all Govt.).	EPI, EOC, D/THMT	EPI Partners, DPCR Partners							X	X	X	X	X	X
5.4	Provision of mobile phones with ZM to newly recruited vaccinators.	EPI	WHO, IRD, Acasus							X	X				
5.5	Annually review vaccinators recruiting needs and make request to DOH as per requirement	EPI, EOC, D/THMT	All EPI Partners					X				X			
5.6	Fill all HR requirements (Town EPI Coordinator, District Superintendent of Vaccinators [DSV]/TSV, TSC, 06 Cold Chain Technicians, Social Mobilizers etc.).	EPI, EOC	All EPI Partners		X	X	X								
5.7	Recruit EPI UCMOs in SHRUCs to work only for RI activities including PEI synergy.	EPI, EOC, D/THMT			X	X									
5.8	Training of all the new appointees	EPI	WHO and partners				X	X							
5.9	Refresher training for existing and new CHWs, social mobilizers, LHWs, TBAs and vaccinators twice per year in SHRUCs and HRUCs	EPI, EOC	UNICEG & other partner staff		X		X		X		X		X		X
6. Improve Issues Related to Cold Chain Equipment (CCE) Intended Outcome: Improved quality of RI services															
6.1	DHO, ADHO/THOs to review the need of CCE for EPI centers and may shift the CCE to newly established EPI centers based on number of Ice-lined Refrigerator (ILR) needed.	EPI, D/THMT	UNICEF, DPCR Partner staff	X	X	X	X	X	X	X	X	X	X	X	X
6.2	Recruit cold chain technician at district level.	EPI	UNICEF		X	X	X								

No.	Intervention	Responsibilities		Year 1 2020				Year 2 2021				Year 3 2020			
		Government of Sindh	Partners	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
6.3	Training of newly recruited cold chain technicians	EPI	UNICEF				X	X							
6.4	Conduct refresher training of the EPI staff on vaccine and cold chain management.	EPI	WHO, UNICEF			X				X				X	
6.5	Establish a dry store at provincial and district level (7).	SH, EPI	WHO, UNICEF			X	X	X	X						
7. Monitoring & Evaluation of RI, data management, and Surveillance Intended Outcome: Improved data quality of RI services and sensitive VPD surveillance system in place.															
7.1	Establishment of VPD surveillance sites in new EPI centers	PD-EPI DHMT THMT	WHO		X	X	X	X	X	X	X	X	X	X	X
7.2	VPD online surveillance training (192 UC EPI Staff, 46 town and District staff).	PD-EPI DHMT THMT	WHO			X	X								
7.3	Orientation of general practitioners (GPs) on VPD surveillance	PD-EPI DHMT THMT	WHO				X	X	X	X					
7.4	Bi- Annual surveillance review meetings	PD-EPI	WHO		X		X		X		X		X		X
7.5	VPD field surveillance review (Annul)	PD-EPI	WHO and other EPI partners			X				X				X	
7.6	Strengthening of AEFI committees.	DHMT THMT	DPCR	X	X										

No.	Intervention	Responsibilities		Year 1 2020				Year 2 2021				Year 3 2020			
		Government of Sindh	Partners	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
7.7	Launching of EPI MIS system (Coverage, Surveillance)	PD-EPI	WHO, UNICEF				X	X							
7.8.	Maintain compliance on ZM via continuous monitoring and support to allow vaccinators to utilize its Decision Support System (DSS) feature and administer all eligible vaccines.	PD-EPI	IRD	X	X	X	X	X	X	X	X	X	X	X	X
7.9	DQA assessment	PD-EPI	WHO and other EPI partners			X				X				X	
7.10	Data Quality Improvement Plan	PD-EPI	WHO and other EPI partners				X				X				X
7.11	Coverage Survey 30 HH Cluster data	PD-EPI	WHO, UNICEF and other EPI partners			X	X			X	X			X	X
7.12	Independent and intensified field monitoring	PD EPI	UNICEF	X	X	X	X	X	X	X	X	X	X	X	X

STRATEGIC OBJECTIVE 3:

INCREASE KNOWLEDGE, TRUST, AND DEMAND FOR SERVICES WITH THE TARGETED DISSEMINATION OF BEHAVIOR CHANGE AND COMMUNITY MOBILIZATION STRATEGIES AS WELL AS IMMUNIZATION MESSAGES IN ORDER TO DECREASE ZERO-DOSE CHILDREN THROUGHOUT KARACHI BY 7% IN 2020, 10% IN 2021, AND 10% IN 2022

The first step in rolling out communications interventions is to establish a Health Education Cell within the Provincial EPI. Manned by communication and behavior change/social science experts, this cell will develop audio-visual materials and communications strategies to increase public awareness about RI and integrated services. The frontline workers will be trained in interpersonal communications to build the trust in the communities. Health education sessions will be arranged with parents and caregivers. A key component is establishing a link between community workers and PHC structures based on a human centered design approach. Involvement of CSOs and community volunteers is essential. However, top level political will and commitment is also crucial for rolling out the entire Roadmap. Therefore, advocacy with politicians and policy makers will be carried out as an essential component of this Roadmap.

Table 3c: Strategic Objective 3 interventions to increase knowledge, trust, and demand for services

No.	Intervention	Responsibilities		Year 1 2020				Year 2 2021				Year 3 2022			
		Government of Sindh	Partners	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Establish and revitalize the Health Education Cell Intended Outcome: Improved oversight and coordination of health education initiatives															
1.1	Establish and ensure the functionality of a health education/ communication cell in the EPI • Hiring of Government communication expert at provincial EPI cell. • Hiring of communication officer at district level • Hiring of Social mobilizers, 10 per districts for implementation of ACSM	PD-EPI,	UNICEF		X										
2. Develop targeted ACSM Materials, Resources, and conduct regular communications activities Intended Outcome: Increased knowledge, trust, and demand for vaccination by Karachi population as a whole															

No.	Intervention	Responsibilities		Year 1 2020				Year 2 2021				Year 3 2022			
		Government of Sindh	Partners	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
2.1	Develop and use audio-visual materials to inform public about vaccine value and safety in local languages via local media/flip charts. • Purchase of audio - visual equipment • Printing of flip charts and other communication materials	PD-EPI,	UNICEF	X	X										
2.2	Increase interpersonal communication skills of front line workers (FLWs) to engage with families and to build their trust.	DHOs			X	X									
2.3	Arrange health education session for waiting parents/caregivers in all fixed EPI centers. Emphasize that parents/caregivers need to keep the vaccination cards of children (even after completion of vaccination.	DHO, THO, TSV, EPI FP	All partners			X	X	X	X	X	X	X	X	X	
2.4	Display immunization messages in fixed EPI centers and make them child friendly, with display of cartons characters, etc.	DOH	UNICEF, CSOs, Polio Structure			X	X	X	X	X	X	X	X	X	
2.5	Establish and maintain the upkeep of a help line for communities for seeking information on immunization (the already existing helpline may include Routine/essential Immunization).	FED EPI			X										
3. Involve local leaders, communities, policy makers, planners, and implementers and link them with PHC systems Intended Outcome: Increased community ownership, political will, and commitment for the routine immunization															
3.1	Establish a link between community networks and PHC structure for microplanning, and establishing outreach session sites and community based VPD surveillance (Using human centered design approach).	PD EPI, EOC, DPCRs	EPI and PEI partner staff		X	X	X	X	X	X	X	X	X	X	
3.2	Involve civil society organizations (CSOs) for creating immunization trust and demanding work in the slum/High priority areas.	PD EPI	UNICEF		X	X	X	X	X	X	X	X	X	X	

No.	Intervention	Responsibilities		Year 1 2020				Year 2 2021				Year 3 2022			
		Government of Sindh	Partners	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
3.3	Mobile miking during outreach vaccination session through Vaccinator/community/social mobilizers/mosque announcement.	PD EPI PD EPI	CSOs		X	X	X	X	X	X	X	X	X		
3.4	Involve community network (CSO, CHWs, LHWs) to educate parents/caregivers regarding benefits and doses required for full immunization.	Polio Structure, CSOs, LHWs, Vaccinators, Community leaders	UNICEF		X	X	X	X	X	X	X	X	X	X	
3.5	Involve local youth clubs for mobilization of community during outreach vaccination day.	PD EPI	CSOs												
3.6	Train Community volunteers Kiran Sitaras for Immunization in under-covered UCs and Slum areas to equip them to become community advocates for immunization.	PD EPI	IRD		X	X	X								
3.7	Conduct advocacy activities with: • Parliamentarians • Health care providers, • Religious elders • Professional bodies (PMA, PPA) • Local governments/councilors.	PD EPI	UNICEF		X	X	X	X	X	X	X	X	X	X	
3..8	Conduct awareness seminars with: • Universities; • Colleges • Schools, • Journalists/media • Mega events (Festivals).	PD EPI	UNICEF, CSO/Private firms			X	X	X	X	X	X	X	X	X	X
4. Targeted approach in SHRUCs and HRUCs of Karachi for Community Engagement Intended Outcome: Increased focus on building trust															

No.	Intervention	Responsibilities		Year 1 2020				Year 2 2021				Year 3 2022			
		Government of Sindh	Partners	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
4.1	Community engagement strategy led by community leaders –(bottom-up) • Advocacy strategy tailored to each UC in local language and culture through a participatory process by involving key influencer and social networks • Focus on building key influencer network in Pashtun community. • Include community voice, needs and agendas in determining locations for new EPI/dispensary and outreach points, recruitment strategies for female HR, and on-going integrated services (i.e. clean drinking water, nutrition, hygiene kits, education).	EOC, EPI and DPCRs	EPI-PEI Partners	X	X	X	X	X	X	X	X	X	X	X	
4.2	Polio messages will be included in EPI and vice versa during SIAs	EOC, EPI and DPCRs	EPI-PEI Partners	X	X	X	X	X	X	X	X	X	X	X	X
4.3	Learn from ZM and polio program – use social profiling to better understand reason for zero-dose and Penta 1-3 drop out.	EOC, EPI and DPCRs	IRD	X	X	X	X	X	X	X	X	X	X	X	X
4.4	Leverage communications from Typhoid and Measles-Rubella campaigns – SMS tailored messages and quick surveys.	EOC, EPI and DPCRs	EPI-PEI Partners		X	X									

MANAGEMENT OF THE ROADMAP INTERVENTIONS

The Roadmap was developed by a partnership initiative that engaged the Government of Sindh (EPI and EOC), implementing partners, and other stakeholders throughout the process. Similar engagement and buy-in needs to continue by all authorities and players for successful rollout of the Roadmap. Sindh EPI owns the Roadmap and have higher-level commitment to build systems and structures for implementation, change management, and sustainability of Roadmap activities. Other key stakeholders include the KMC and the DMCs of Karachi- their full buy-in and support is crucial for the success of the Roadmap. Advocacy with KMC and DMCs (under the Ministry of Local Government) is essential to ensure their coordination and commitment to allocate resources for RI services. Based on the operational plans, joint monitoring and supervision are also required. In addition, the draft SHRUCs plans (still in finalization as of January 2020) are included in the Roadmap as Annex 6 for achieving improved immunization coverage in the high-risk areas. This will be done by creating small management structures. The Sindh EPI and EOC will explore opportunities for issuing small grants to local organizations to cover urban slums. Management structures at provincial, divisional, district, town and UC level will be established, as depicted in Figure 13.

To implement the SHRUCs action plans the partnership will extend between District and UC-level management by appointing a PEI-EPI Focal Point for each UC, prioritizing the eight SHRUCs in monthly reviews, and identifying a person accountable for each action.

Immediate next steps:

1. Finalize UC-level plans with KPIs.
2. Synchronize annual action plans with DHOs and UCs.
3. Obtain endorsement of Ministry of Finance and P&D.
4. Notify relevant stakeholders about structure and responsibilities
5. Select a Doctor for UCMOs for the SHRUCs.
6. Reconvene in 6 months and review progress.

Provincial level – A provincial level task force committee will be established by Sindh Government in the roll out Roadmap under the Chief Secretary with these as members: the secretaries of Health, Finance, Local Government, Labor and Planning, and Development; representatives from the EOC; the PD-EPI, the DG Health, the DHS-Karachi, and the Metropolitan Commissioner of the KMC. In order to track the progress and oversight, a provincial quarterly EPI review meeting will be conducted regularly with the inclusion of the CMO of the DMCs, representatives from the KMC (Metropolitan Commissioner and SMD MPH) District Council of Karachi, the PPA, the PMA, and the Family Physicians Association and CSOs (in addition to already notified members).

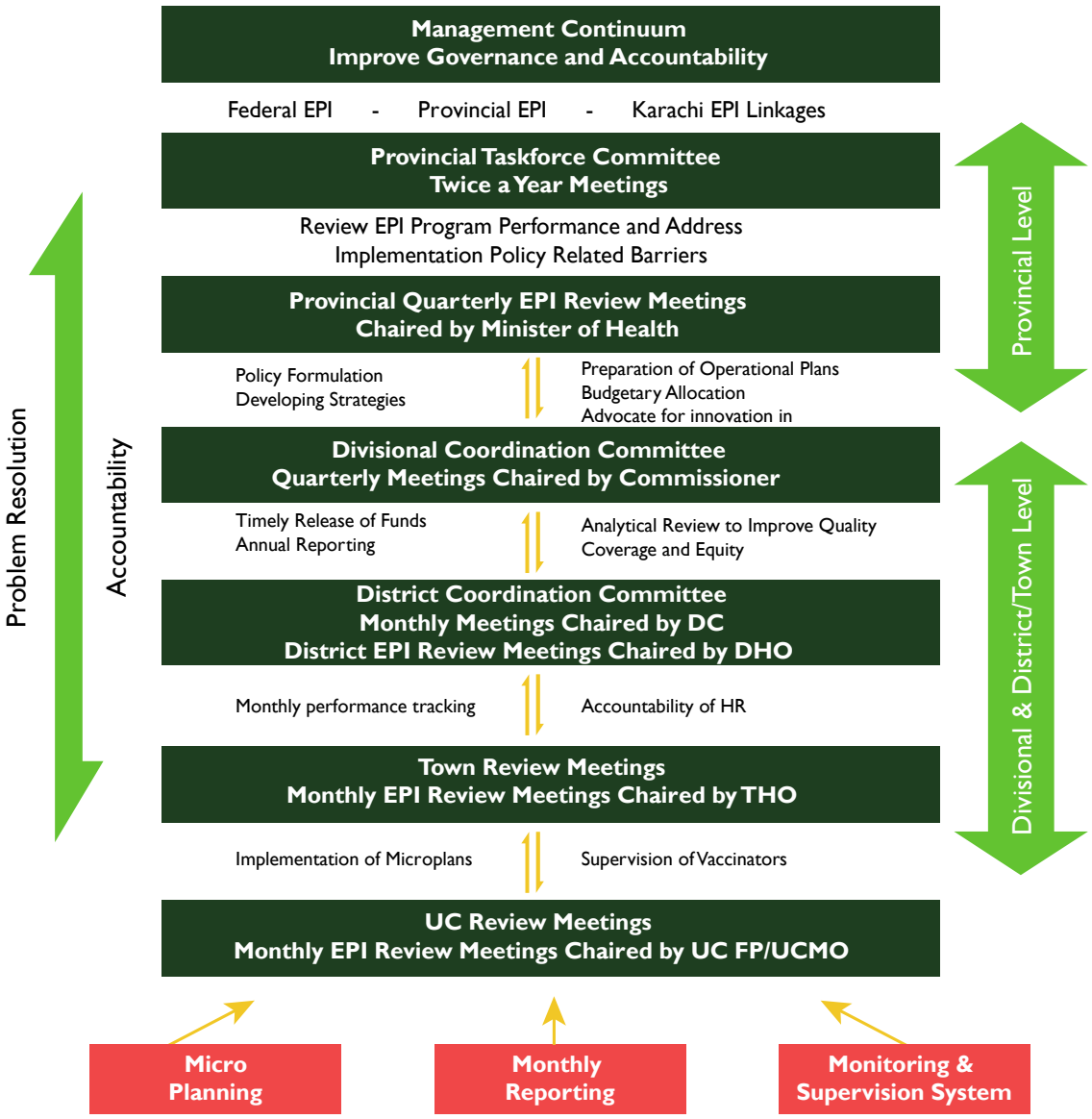
Divisional level – A Divisional coordination committee will be established which will be led by the Commissioner of Karachi and will involve the participation of the Metropolitan Commissioner of the KMC Karachi, the EOC, the EPI, the DG of the Health Office, 6 Deputy Commissioners from Karachi, the DHS Karachi, 6 DHOs, the CMOs of the DMCs, and the DCK, Representatives of EPI partners, and the Police department.

District level – At district-level, Terms of Reference (TOR) will be expanded and membership for the DPCR to include: the District and Town EPI Focal Persons, the CMO DMC, a representative from KMC (Municipal Health Department), a representative from DCK (in West and Malir districts), representatives from the PPA, the PMA, the Family Health Association, the TKF, IRD, and CSOs. District EPI review meetings will be regularly conducted and will ensure inclusion of the aforementioned members at the DPCR level and DHO level to chair the EPI review meeting on a monthly basis.

Town level – In towns, the ADHO/THO will chair monthly EPI review meetings with town level government and partner staff for the EPI/PEI to review UC-level performance.

Union Council level – At Union Councils, UCMOs will lead the management of the RI services and will chair the monthly UC Review meeting with Vaccinators, UCMOs, UCPOs, UCCSOs, Area Supervisors, CHWs, LHSs and LHWs. This meeting will be conducted prior to District/Town EPI review meetings.

Figure 13: Project Management of RI Services and Roadmap Interventions



MONITORING AND EVALUATION OF ROADMAP INTERVENTIONS

Program managers, stakeholders, and partners at all levels are required to closely monitor the progress of implementation of the Roadmap based on identified process and outcome indicators. The Monitoring and Evaluation Cell in EPI will leverage the already existing data sources including the ZM app, the supervisory application, VPD surveillance, and the vLMIS. In addition, the M&E cell in EPI will implement new tools for the monitoring of newly established routines and interventions.

The following outcome, output, and process indicators will be used to monitor progress toward the goal of achieving universal immunization coverage in Karachi by increasing coverage from 63% to 90% full immunization coverage by 2022.

Table 4: Outcome, output, and process indicators

	Indicator	Frequency	Data Source	Baseline	Responsibility
Outcome	Percent of children in Karachi who are fully immunized, disaggregated by age, group gender, and wealth quintile	Annual	Coverage evaluation survey	Coverage evaluation survey 2018 (2017 birth cohort)	Director EPI
Output	Percentage of dropout from Penta 1 to Penta 3	Biannual	30 HH survey data	TBD	WHO
	Percentage of zero-dose children in each town who received their overdue vaccines within one month of being identified by the polio team	After every campaign	Polio survey data and routine immunization registries	Zero dose coverage from last National immunization day (NID)/ Sub-national immunization day (SNID) in Karachi	Director EPI
Process	Objective 1: Strengthen governance and accountability				
	Regular routine of high-level stakeholders established	Quarterly meetings	Minutes of the meeting	0	Chief Secretary
	Regular routine of Roadmap review in Health Department established	Monthly meeting	Minutes of the meeting	Regular meeting held	Health Minister
	Regular routines of Roadmap review at district level established	Monthly meeting	Minutes of the meeting	TBD	District Health officers
	EPI performance scorecard for districts developed and tracked	Monthly	Monthly scorecard report	0	Acasus

	Objective 2: Address gaps in service delivery				
	Percentage of UCs with fixed EPI sites	Monthly	Supervisory application	TBD	Director EPI
	Percentage of Public health facilities providing EPI services	Monthly	Supervisory application	TBD	Director EPI
	Percentage of fixed EPI sites meeting the functionality criteria	Monthly	Supervisory application	TBD	Acasus
	Percentage of fixed EPI sites functional as VPD surveillance sites	Monthly	VPD dashboard	TBD	WHO
	Percentage of UCs with adequate number of vaccinators posted (1/10,000 population)	Quarterly	EPI admin data	TBD	Director EPI
	Percentage of marginalized communities (e.g. urban slums, migratory populations) have outreach services	Monthly	Zindagi Mahfooz	TBD	IRD
	Percentage of micro plans meet the field validation criteria	Bi-annually	Field validation of micro plans	TBD	WHO
	Percentage of planned outreach sessions are actually conducted	Monthly	Zindagi Mahfooz/vLMIS	TBD	IRD
	Percentage of children registered in the ZM child registry	Monthly	Zindagi Mahfooz/vLMIS	TBD	IRD
	Percentage of vaccinators receiving POL for outreach sessions	Monthly	EPI admin data	TBD	Director EPI
	Objective 3: Increase trust in vaccines through demand generation				
	Percentage of fixed EPI centers conducting health education sessions for waiting parents / caregivers	Monthly	Supervisory application	TBD	UNICEF
	Percentage of fixed EPI centers with immunization messages displayed	Monthly	Supervisory application	TBD	UNICEF
	Percentage of urban slums where routine community sessions on EPI are conducted	Quarterly	Field reports	TBD	UNICEF
	Percentage of defaulters/dropouts receiving reminder messages through SMS	Monthly	Zindagi Mahfooz/vLMIS	TBD	IRD

COSTING OF ROADMAP INTERVENTIONS

Funds from government source (Planning Commission Form 1-Sindh Immunization Support Program) for RI are available for governance and accountability, service delivery and demand generation for Sindh (2015-2020)[22]. Gavi Health Systems Strengthening (HSS)-II fund is available for equity-focused integrated immunization initiative for marginalized communities in Sindh (2019-2020)[23]. In addition, 34 million USD is available for Sindh through a multi-donor trust fund (MDTF). Implementation of Roadmap interventions should start by utilizing these available funds.

The process for developing a budget for immunization services in the city for the next 5 five years (2021-2025) will start in Quarter 1 of 2020, which will help to determine the allocation of resources for this plan. However, to leverage government ownership and commitment for the financial sustainability of the EPI's recurrent budget and cost of building health infrastructure for the growing urban population in Karachi, donors and partners need to hold high-level advocacy and sensitization meetings with political leaders (e.g. parliamentarians) in 2020. Existing activities such as the ZM initiative should continue.

- A series of meetings were conducted in November 2019 to cost the activities between the Federal and Provincial EPI and partners (UNICEF, WHO, and JSI consultants). During the budget review, funds from the following line items were earmarked for and Roadmap activities and interventions: PC 1
- HSS Funding
- Urban TA (with WHO and UNICEF)
- Measles unspent money re-appropriation
- Performance Based Funding (PBF)

Consequently, two budget plans are proposed:

- Plan A: Maximized interventions with higher proposed budget (Table 5)
- Plan B: Prioritized interventions with lower budget (Table 6)

[22] EPI, Provincial Department of Health, Government of Sindh, Planning Commission Form 1 (PC-1), Sindh Immunization Support Program (SISP) 2015-16 to 2019-2020.

[23] Gavi, Request for Additional HSS Funds, Equity-Focused Integrated Immunization Initiative for Marginalized Communities in Pakistan, Request for Additional HSS Funds.

Table 5: Plan A: Roadmap costed budget summary (with maximized interventions):

QUICK ANALYSIS FOR OVERVIEW							
S #	Activities	Year 1	Year 2	Year 3	Total - PKR	Total USD	Proportion
1	HR	411,082,620	452,190,882	497,409,970	1,360,683,472	$ 8,778,603	45%
2	Meetings & Training	16,244,630	5,588,368	5,992,882	27,825,880	$ 179,522	1%
3	Integrated PHC	50,160,000	55,176,000	60,693,600	166,029,600	$ 1,071,159	6%
4	Procurement of Phone & Bikes	259,644,000	85,344,000	93,878,400	438,866,400	$ 2,831,396	15%
5	Dry Stores	244,125,000	-	-	244,125,000	$ 1,575,000	8%
6	Field Monitoring	64,800,000	-	-	64,800,000	$ 418,065	2%
7	CSOs	30,000,000	33,000,000	36,300,000	99,300,000	$ 640,645	3%
8	Others	-	-	-	-	$ 3,855,575	20%
TOTAL		1,076,056,250	631,299,250	694,274,852	2,401,630,352	$ 19,349,964	100%
				Required Total		$ 19,349,964	

Table 6: Plan B: Roadmap costed budget summary (with prioritized interventions):

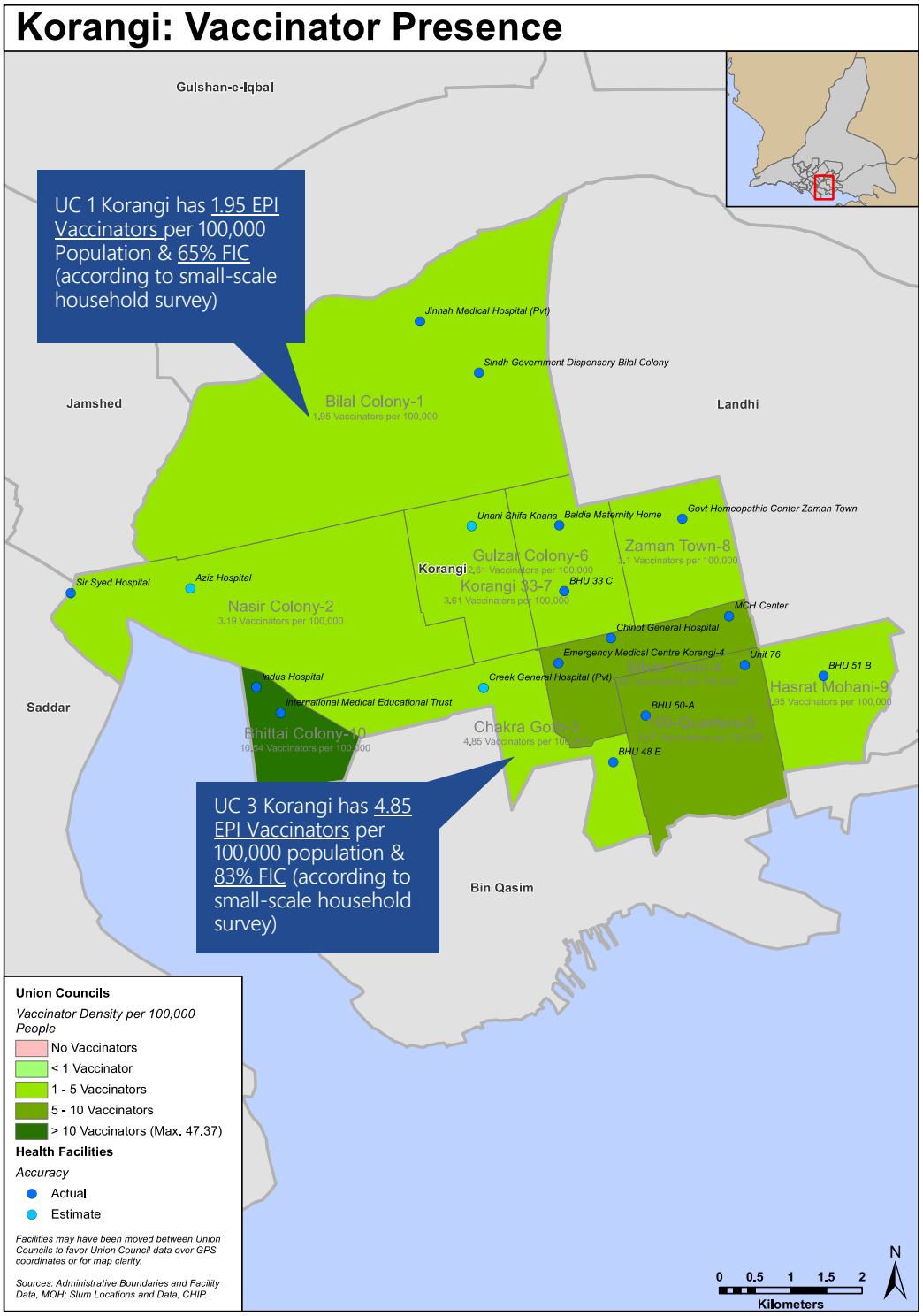
QUICK ANALYSIS FOR OVERVIEW							
S #	Activities	Year 1	Year 2	Year 3	Total - PKR	Total USD	Proportion
1	HR	269,509,680	296,460,648	326,106,713	892,077,041	$ 5,755,336	43%
2	Meetings & Training	16,385,570	5,743,402	6,163,419	28,292,391	$ 182,532	1%
3	Integrated PHC	50,160,000	55,176,000	60,693,600	166,029,600	$ 1,071,159	8%
4	Procurement of Phone & Bikes	259,644,000	85,344,000	93,878,400	438,866,400	$ 2,831,396	21%
5	Dry Stores	244,125,000	-	-	244,125,000	$ 1,575,000	12%
6	Field Monitoring	64,800,000	-	-	64,800,000	$ 418,065	3%
7	CSOs	30,000,000	33,000,000	36,300,000	99,300,000	$ 640,645	5%
8	Others					$ 1,005,962	7%
TOTAL		934,624,250	475,724,050	523,142,132	1,933,490,432	$ 13,480,094	100%
				Required Total		$13,480,094	

ROADMAP MILESTONES AND NEXT STEPS

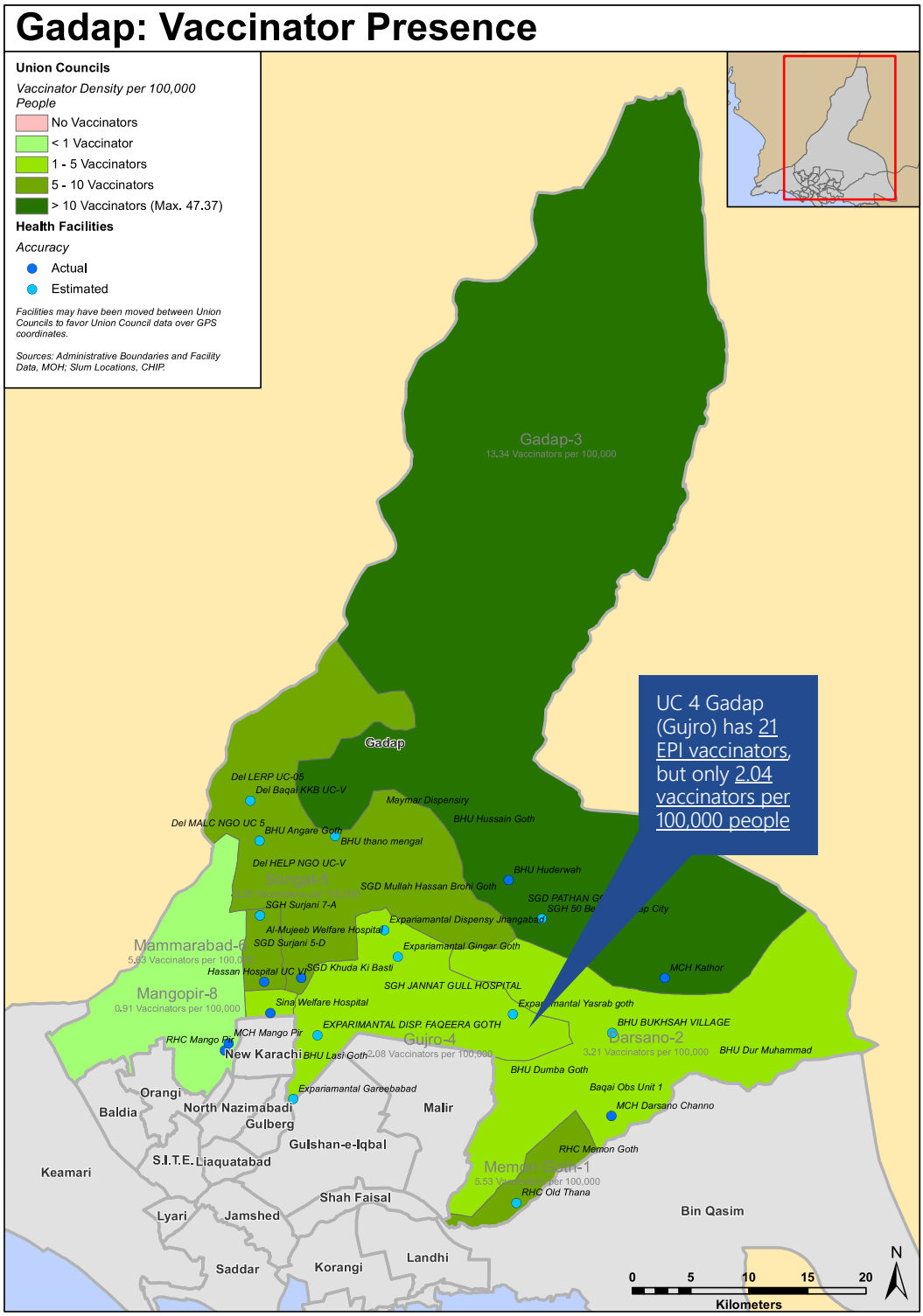
Table 7: Roadmap Milestones

Next Steps and Milestones	Completed by
• Submission of the document to provincial EPI and EOC Sindh for the approval by the Government of Sindh • Approval of the document by Chief Secretary and Chief Minister Sindh • Launching of Roadmap with participation of all partners and stakeholders • Submission of Approved document to the Minister of Health, Secretary Health and Secretary P&D, and Secretary of Finance (wherever required under governmental procedures) for implementing plan of action • Taking all stakeholders on board by PD-EPI (especially KMC, DMC, DCK, PPA, PMA and family physician association, CSO), with the support of partners. • Develop strategy to engage private sector in a systematic way. Develop agreed upon MoU between EPI and private sector associations (PPA, PMA, Family Physician's Association, as well as with independent private hospitals)	February, 2020 – March 2020
• Technical support units (for strategic planning and service delivery, M&E, and communication) established in Sindh-MOH office • Steering/coordination committee meetings regularized and functionalized at all levels (provincial/district/towns) • Staff at newly established M&E cell in Sind-MOH trained • Union Council/High-risk community with high zero-dose children identified • Annual Independent PEI-RI survey conducted	May 2020
• District/Town Managers trained in leadership, program management and data-driven decision making • EPI fixed center established in public health facilities, not providing immunization services, with re-deployment of Vaccinators • Slum areas integrated for outreach services in GIS-supported microplanning • Community-awareness on vaccination with use of audio-visual materials and inter-personal communication • Help-line on immunization established • Start to conduct town-wide monthly EPI review meeting in each district • Private sector facilities/providers involved (through MOU) to provide EPI services in UCs with inadequate public health infrastructure • Community leaders involved in community awareness development and immunization service planning • Private sector facilities/providers involved (through MOU) to provide EPI services in UCs with inadequate public health infrastructure • Community leaders involved in community awareness development and immunization service planning	August 2020
• MOV survey started to conduct in secondary and tertiary level facilities • EPI-PHC services integrated in 10 health facilities • Implementation research conducted on evening immunization services for children of working parents in select health facilities in each town • Annual Independent PEI-RI survey conducted	December 2020
• Public health facilities built proportionate to population of UCs • Cold chain established in newly built health facilities • Annual Independent PEI-RI survey conducted	December 2021

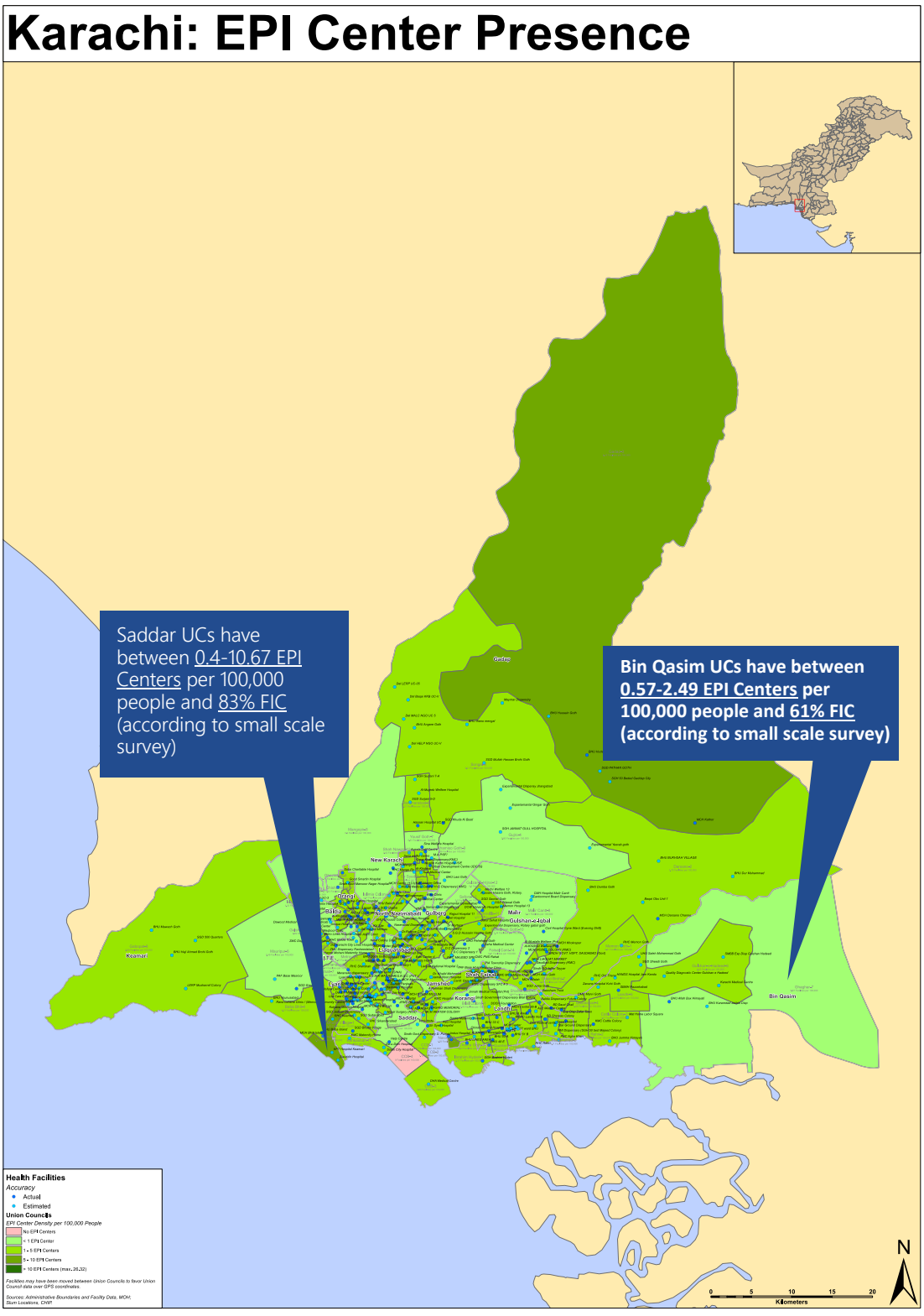
ANNEX 1: MAP OF VACCINATORS PRESENCE IN RELATION TO FIC COVERAGE (KORANGI TOWN)



ANNEX 2: MAP OF INADEQUATE VACCINATOR PLACEMENT IN EPI CENTERS (GADAP TOWN)



ANNEX 3: MAP OF EPI CENTER LOCATIONS IN RELATION TO FIC COVERAGE (KARACHI-WIDE)



ANNEX 4: METHODOLOGY OF RI ASSESSMENT CONDUCTED FOR THE ROADMAP

STUDY DESIGN

The Karachi RI assessment was a mixed method study including both quantitative and qualitative methods to collect comprehensive data from Provincial EPI Office Sindh, Provincial Emergency Operations Center (EOC) Sindh, partners, beneficiaries, communities, stakeholders and other parties directly involved in the immunization system.

Primary data on service delivery structure was obtained from the Provincial EPI Directorate using in-depth interviews (IDIs). From this data, the main administrative framework was identified and used for conducting further in-depth interviews, focus group discussions (FGDs), fixed and outreach site observations, and a small-scale household survey in sampled towns and Union Councils (UCs) within each district. To ensure equal representation of this metropolitan city; all six districts of Karachi were included in the sampling framework. One town from each district and two UCs from each town were randomly selected. Random selection of towns was done using computer generated random numbers, in the office of Project Director (PD) EPI by the JSI consultants and EPI team (comprising of PD EPI, Deputy PD EPI and Data Focal person). The 12 fixed and 12 outreach immunization sites were sampled using structured checklists and immunization coverage data was collected through a small-scale household survey. The small-scale household survey was conducted targeting 75 households with at least one child between 12 to 23 months of age using a cluster sampling technique in the sampled UCs, equaling 150 households per town and 900 households total.

Qualitative data was collected using pre-piloted structured questionnaires adapted from similar tools used in other countries. All IDIs and FGDs were conducted by trained researchers and based on structured and semi-structured interview questionnaires. Details of IDI and FGD respondents and the sampled fixed and outreach sites are summarized in the tables 1-3 below.

In addition, secondary data analysis was done with the available data from partners—specifically, the EPI, the EOC, CHIP, and UNICEF. Also, through the EPI and EOC, health facility (HF) and UC specific data was collected from towns/districts of Karachi regarding EPI centers (by categories), vaccinators, population difference and projected census data from the National Institute of Population Studies (NIPS) while micro-census data was collected by Community Health Workers (CHWs), status of CCE, etc. Data on health facilities, vaccinators, LHWs, and healthcare providers was also collected from the Director of Health Services Office, Karachi (DHS); Karachi Metropolitan Corporation (KMC); six District Municipal Corporations (DMCs); District Council Karachi (DCK); Pakistan Pediatric Association (PPA); Pakistan Medical Association (PMA); Family Physician Association; NGOs; Civil Service Organizations (CSOs) etc.

DATA SAMPLES AND ANALYSIS

One fixed and one outreach site in each UC were selected (total 12 Fixed and 12 Outreach sites) to collect data on functionality, data management, availability of staff and supplies, observe vaccination process, coverage, performance, frequency of supervisory, and monitoring visits. Table 1 summarizes the Towns and UCs within each district from where data was collected for the site observations and household survey. Quantitative data from site observations and the household survey from all sites was analyzed using Excel.

Table 1: Details of qualitative data sample – fixed and outreach site observations and household survey

Number	District (Population 2017)	Town	UC	Selected EPI Centre	Outreach Site
1	Korangi 2,457,019	Korangi	Bilal Colony-1	Sindh Government Dispensary Bilal Colony	As per outreach plan on the day of visit
			Chakra Goth-3	Creek General Hospital (Pvt)	
2	Malir 2,008,901	Bin Qasim	Landhi – 5	HANDS Hospital Jam Kando	
			Ghaghar – 7	BHU Karamdad Jokhio	
3	South 1,791,751	Saddar	Karachi Cantonment (KC)	NICH	
			Clifton Cantonment Board (CCB) - 2	SGD Dehli Punjab Colony	
4	West 3,914,757	Site	Qasba Colony-8	SGD Qasba Colony	
			Metrovil-4	Kulsoom Valika Site	
5	Central 2,726,329	N.Nazimabad	Khandu Goth-3	Rangers Hospital Block A	
			Farooq e Azam-6	Al- Khidmat Centre J Block	
6	East 2,909,921	Gulshan Iqbal	Gulshan-1 - 5	Hajira Medical Centre	
			Pehlwan Goth - 10	S.G.D Hussain Hazara Goth	

The IDIs and FGDs were voice recorded and transcribed from local language. A framework analysis approach was used for qualitative data analysis. IDIs from same category were condensed and summarized. Summaries were classified to prepare thematic summaries as per project objectives. Thematic summaries from different sources were studied for patterns and relationships to identify agreements, disagreements, and emerging concepts. Data from different sources was then condensed under similar relevant themes for triangulation, corroboration, and interpretation.

Table 2: Details of IDI qualitative data sample

In-depth Interviews			
Number	Respondent	Sample Size per District/Town	Total
1	Senior Administration EPI and Health Departments of Sindh and Karachi (Director General, Project Director, Deputy PD, DHS)		4
2	Vaccine Logistic and Cold Chain Equipment (CCE) Focal Persons (Provincial)		2
3	EPI Focal Person (EPI-FP)	1	6
4	KMC Representatives		2
5	District Health Officer (DHO)	1	5*
6	Town Health Officer (THO)	1	6
7	Town Superintendent of Vaccinators (TSV)		6
8	Chief Medical Officer (CMO)[24]	1	6
9	EPI Center In-charge	1	6
10	District Council Karachi CMO		1
11	Lady Health Worker Program Coordinator		2
12	Lady Health Worker Program Lady Health Supervisor		3
13	Community Health Worker (CHW)	1	4
14	Implementing partners for PEI & EPI (EOC, DPCR, WHO, UNICEF etc.)	All possible	16
15	CSO representative	All possible	8
16	Private Practitioners		7
17	Academia representatives		7
18	Mothers of fully vaccinated children	1	6
19	Mothers of partially vaccinated children	1	6
20	Mothers of unvaccinated children	1	12
	Total IDIs		115

* DHO South retired and THO Saddar was having additional charge of DHO (who was also interviewed)

Table 3: Details of FGD qualitative data sample

[24] CMO is the most senior officer in the District Municipal Corporation and District Council Karachi administrative framework

Focus Group Discussions			
Number	Respondent	Sample Size per District/Town	Total
1	District Administrative Lead Team (DHO, THO)	1	1
2	Community Health Workers	2 districts	2
3	Vaccinators	1	6
4	Lady Health Workers		3
5	Private sector representatives: PMA & Family Physicians Association		1
6	Mothers	1	6
7	Fathers/Male community members	1	6
8	Religious Leaders	As possible within sensitivity constraints	2
	Total FGDs		27

ANNEX 5: FINDINGS KARACHI RI BOTTLENECK ANALYSIS CONDUCTED FOR THE ROADMAP

Qualitative and quantitative data obtained from the Karachi RI assessment was used for the bottleneck analysis. The issues identified by responders in IDIs, FGDs, and household surveys as well as the site observations/facility checklists were classified into categories adapted from the WHO health systems framework. The Ishikawa fishbone diagram was used for root cause analysis in each category. These root causes were again analyzed using the health system framework to diagnose the bottlenecks affecting system efficiency.

Table 1: Key bottlenecks

Program Structure • Strategic vision for program, goals and plans for Karachi not present • Essential support departments for independent program implementation are absent or outsourced • Documentary frameworks, policies, and SOPs non-existent or ambiguous
Finances • Delayed release of funds • Delayed disbursement of vaccinator salary and POL budget due to procedural complexity
Coalition, Collaboration and Coordination • Lack of established coordination mechanisms between different governance structures responsible for provision of health services in Karachi • Coordination is not present with all relevant health programs such as the MNCH or Nutrition Support program • Coordination between the vaccinator-LHW-Community-based Volunteers (CBV) triangle is weak • Mechanism for collaborations and coalition with partners and other sectors are not clear and documented with delineation of roles
Human Resource and Capacity Building • Insufficient amount of human resources for strategic program management and monitoring; FP and monitoring personnel gaps at UC level • Regular training and refresher plans and competency evaluation mechanisms not present for managers, monitors, and vaccinators • Vaccinators: insufficient number, weak communication skills, weak technical knowledge, irrational work load distribution
Service Delivery • EPI center infrastructure ill maintained, locations not readily identifiable, no mechanism for locating nearest center • Center maintenance SOPs and budget absent or ambiguous • Center timings mismatched with client preferences • No inclusion in budget for dispensation of fever medication with vaccines likely to cause pain and fever • Implementation of micro-plans is incomplete • Outreach performance is not up to mark due to issues of POL
Insufficient Vaccine Supply and Inadequate Logistics • Low dose BCG and measles vials not available • Auto Disable syringes are not available for RI • No clear policy regarding CCE provision to private HFs • No plans available for enhancement of storage capacity needs for near future
Data Management • Private sector data is not included • Data sharing is not effective • Primary data for development of micro-plan has discrepancies

- No system to track a child who received BCG vaccine through 0 to 15 months; child may pass through different health facilities for subsequent vaccinations

Monitoring and Evaluation

- M&E personnel number disproportionate for population and catchment area magnitude
- Absence of M&E department, framework, tools, and transportation to facilitate monitoring, hence outsourced to implementing partner
- Third party monitoring mechanism and plans absent

Lack of Proper Technology

- No dedicated IT department to handle data and software applications
- Current application (ZM) is outsourced and needs further development for effective implementation

Private Sector/CSO Engagement

- No legislative framework to include private sector/CSO's in the EPI service provision network

Social Mobilization and Health Communication/Demand Generation

- Absence of Health Communication and media department
- Media (TV, radio, IEC material) underutilized for awareness and social marketing
- Production and display of IEC Material not up to mark
- Branding redundant
- No national legislation against anti vaccine material on social platforms

Community Knowledge and Demand Generation

- Defaulting on vaccination is rooted in inability to manage side effects, inability to come to center within its working hours and cultural containment of women in Pashtun community
- Refusal and reluctance is specific to "polio drops" due to the deeply ingrained misconception
- Service side issues and mismatch with client needs and expectations

ANNEX 6: DRAFT KARACHI SHRUC ACTION PLAN AS OF DECEMBER 2019[25]

BACKGROUND

The Pakistan Polio Eradication Initiative (PEI) has identified 8 polio super high-risk Union Councils (SHRUCs) in Karachi, and the recent TAG recommendation confirmed the need for "laser focus" on these areas. With chronically low routine immunization coverage and high levels of refusal recorded during polio Supplementary Immunization Activity (SIAs), there is demonstrated need to strengthen Essential Immunization (EI) within these SHRUCs. While the National Immunization Support Programme (NISP) and the Urban Immunization plan have greatly improved the availability of funds available to EI, and the polio National Emergency Action Plan (NEAP) has firmly established links between PEI and EI, there is need for partners to support the government partners to: 1) develop an operational plan using traditional and non-traditional channels for delivering vaccines and supplementary health services in the 8 SHRUCs; and 2) define the roles and responsibilities of each partner in supporting the government with implementation.

Jointly led by PEI-EPI, a workshop was conducted December 10th-11th in Karachi to build out operational plans. The workshop helped to develop a common understanding of the current status for the EI program in each of the 8 SHRUCs, identified UC-wide gaps, barriers, as well as potential solutions to reaching zero-dose and under-immunized children and reducing Penta-1 to Penta-3 drop out, and completed and drafted action plans including a timeline and roles and responsibilities. The action plans will be ready for implementation by January 2020, and the Health Minister of Sindh gave full assurances of support wherever required in this regard.

The plans are supportive of the Roadmap for Achieving Universal Immunization Coverage in Karachi, Pakistan 2019-2022 as well as draw on the outline and experience of the Gujjro Action Plan. They outline in detail how to implement these recommendations, as well as expand to outline non-traditional ways of working with communities and incorporating integrative services as a way of increasing community participation in achieving high immunization coverage.

At the close of the workshop Minister of Health of Sindh Province, Madam Azra, agreed to the following steps:

1. Prioritize these 8 SHRUCs in the Minister's monthly review.
2. Fill resource gap for EPI Centers and HR.
3. Assign person accountable for each UC (complete).
4. Focus on the need for integrated services (highlighted the need to focus on HR for WASH).

[25] The document included here is as of December 2019 and was still in development at the time the Roadmap was finalized. A new version is planned for released in February 2020. There are some missing pieces denoted by [brackets].

GOALS AND OBJECTIVES

Overall goal: interrupt the persistent poliovirus transmission in Karachi through community-based improvement of routine immunization coverage.

Objectives:

1. Strengthen EPI service delivery to reduce zero-dose children and reduce Penta-3 drop out.

2. Reduce community resistance to immunization activities by:

    a. Developing and implementing a community-led communication plan

    b. Providing community-based interventions e.g. WASH, Nutrition, MNCH

3. Integrate PEI and EPI management and oversight structures and outreach activities.

HOW WE WORK TOGETHER

- Refreshed approach to accountability trademark-job performance + data quality
- Culture of sharing data + activity plan
- Use of maps to make decisions (Q1)
- Strengthen capacity and link between DHOs and UCMOs for decision-making (Q2)
- Ensure a team lead for every area of work (Q1)

KEY DIRECTIONAL DIFFERENCES AND TRANSFORMATIVE ACTIONS [STILL NEED TO ASSIGN RESPONSIBLE PARTNER FOR EACH ITEM]

1. Integrated PEI-EPI Service Delivery - improving availability, reliability & quality of services

    a. Create detailed data-informed microplans, including maps of existing services and the plan for new services for each SHRUC to guide implementation and build accountability, leaning from the experience of polio (Q1).

    b. Ensure all existing public and private health facilities have both a fixed post vaccinator and outreach (Q1) (Table 1).

    c. Establish temporary/rented Dispensaries for MNCH + EPI in underserved/slum areas with HR as per Urban Roadmap (Q1-Q2) (Table 2).

    d. Rationalize assignment of vaccinators and LHWs based on evidence-based microplans; new hires should be female and Pashto-speaking if at all possible (Table 3).

    e. Consider a broader definition who can provide services + information through maximizing the involvement of private and informal health care providers (Q3) (Table 4):

        - Use private providers and TBAs as a recruitment pool for CHWs and vaccinators.

- Train existing TBAs and private providers in EPI messages, delivering hygiene kits.
- PPHI/HANDS/SINA as extensions of program with same approach including EPI at all facilities
- Approach textile industry/trade association, especially in UC 2-Landhi-Muslimabad.

f. Essential that new vaccinators/LHWs should be women and Pashto-speaking (ongoing)

g. Zero-dose follow up together with CHWs and LHWs (Feb polio NID)

h. Refresher training for existing and new CHWs, social mobilizers, LHWs, TBAs and vaccinators twice per year

2. Community Engagement – focus on building trust

a. Community engagement strategy led by community leaders – bottom-up (Q1)

- Advocacy strategy tailored to each UC language and culture through a participatory process by cultivating key influencer and social networks
- Focus on building key influencer network in Pashtun community (Q1, Q2).
- Include community voice, needs and agendas in determining locations for new EPI/dispensary and outreach points, recruitment strategies for female HR, and integrated services to focus on (i.e. clean drinking water, nutrition, hygiene kits, education) (Ongoing).

b. Polio messages will be included in EPI and vice versa during SIAs, then add in integrated services messaging (Q2).

c. Learn from ZM and polio program – use social profiling to better understand reason for zero-dose and Penta 3 drop out (Q2).

d. Leverage communications from Typhoid and Measles campaigns – SMS for tailored messages and quick surveys (Q2).

3. Next steps for bringing in Integrated Services

a. Minimum package of services: Start with LHWs, TBAs and CHWs:

- Panadol along with Penta-1, nutrition messages, and distributing hygiene kits (Q2)

b. Focus on MNCH in first 1000 days (Q3).

c. Add water filtration plants to no. of union [need a decision on how many per SHRUC] facilities per UC (Q4).

d. Work through Task Force to fully develop integrated services action plan as an expanded version of this initial PEI-EPI action plan (Q2) (Table 5).

4. Management, Oversight, and Partner Synergy

To implement this plan the partnership will extend District and UC-level management transformation to EPI by appointing a PEI-EPI Focal Point for each UC, prioritizing these 8 SHRUCs in monthly reviews, and identifying a person accountable for each action.

Immediate next steps:

1. Finalize UC-level plans with KPIs.
2. Synch annual action plans with DHOs and Ucs.
3. Endorsement from Ministry of Finance and P&D
4. Notification of structure and responsibilities
5. Selection of Doctor UCMOs for the SHRUCs
6. Reconvene in 6 months and review progress.

Progress of SHRUC Action plans will be reviewed in the following individual meetings:

Table 1: Proposed meeting structure to support SHRUC action plan management and oversight

Level	Meeting name	Purpose	Participants	Frequency	Chair	Tools
Province	Quarterly review meeting with DHOs (existing)	Review implementation	Minister of Health Secretary of Health	Quarterly	Minister of Health	Tracker
	Provincial Task Force (existing)	-High-level endorsement -Track implementation	CM (All relevant departments)	Quarterly	CM	Meeting minutes
	Provincial EPI/EOC (existing)	Resource allocation	EOC/EPV	Monthly	Joint (EPI/EOC)	District level plan
District	DPEC (existing)/EPI (new)	Track implementation	DC, DHO, UCMOs for SHRUCs	Monthly	DC	UC-level tracker
UC	UPEC/RI (new)	Review individual performance	-Community representation currently missing -UC Chair should be a part of this	Monthly	UCMO	SHRUC Action Plan

The Task Force enacted for the oversight of the Gujjro action plan will extend their duties to cover all 8 SHRUCs in Karachi.

The following pieces are still in development:

- [INSERT TASK FORCE MEMBERS]
- [INSERT ROLES AND RESPONSIBILITIES OF TASK FORCE]
- [INSERT ERU MEMBERS]
- [INSERT ROLES AND RESPONSIBILITIES OF ERU]
- The UC Focal Points appointed by Minister Madam Azra on December X, 2019 will report up through the ERU structure at a monthly meeting chaired by Minister Azra
- [INSERT NAMES OF UC FOCAL POINTS]
- [INSERT ROLES AND RESPONSIBILITIES OF ERU AND UC FOCAL POINTS]

DEPENDENCIES/REQUIREMENTS

- Shift UC-1 Health data and logistics to district –Administrative battle with Korangi.
- Reduce turn over (VLMIS & other campaign) of government officials.
- Resource availability - government and partners
- Monitoring and supervision framework + HR /accountability
- Availability of female staff locally
- Communities willingness to accept the service – managing expectations
- Sindh province promote service delivery SOPs (and Federal to update policies)
- Sindh province to implement child registry
- CSOs in Karachi need to function as a part of the system.
- Sindh to coordinate with WASH /UN, integrated services part of contracts so are EPI
- Sindh province enforces data sharing.
- Budget allocation for MNCH centers, water plants, localized IPC material, Hygiene unit
- Agreement reached with Landhi Trade Association and Sindh Labor Department
- Engagement of DC for integrated services

Table 2: List of existing facilities in each SHRUC

SHRUC	Existing facilities		SHRUC	Existing facilities
UC1-Landhi-Muzafarabad	EPI Centers: Bilquees Sultan Hospital (2xVaccinators - 1 fixed 1 outreach) KMC dispensary (1 room 1 doctor no medicine) Other facilities: 1 SESSI tertiary hospital (labor dept) 1 50-bed hospital (Sindh Gov't, partially functional) 1 dispensary 5 local GPs		UC5-Gadap-Songal	5 in total: 2 Basic Health Units (BHUs) run by HANDS 1 BHU run by PPHI but it is not functional 1 gov't EPI center 1 Hospital (Bakeri))
UC2-Baldia-Ittehad Town	1 EPI fixed center (Private - Ali Medical Centre)		UC7-Orangi-Chisti Nagar	1 gov't health facility with EPI located on the edge of the UC
UC2-Landhi-Muslimabad	4 EPI centers total: 1x50 bed gov't hospital (health dept, EPI 6 days) 1xBHU (Sessi, EPI 6 days)) 1xStarground dispensary (health dept, EPI 6 days) 1xSINA dispensary (EPI 5 days)		UC8-Gadap-Mangopir	RHC/EPI Center MNCH center
UC4-Gadap-Gujjro	8 EPI centers, 200+ outreach points 14 team support centers (6 fully functional)		UC9-SITE-Islimia Colony	3 EPI centers 2 private clinics

Table 3: Additional infrastructure requests by SHRUC

SHRUC	Infrastructure requests		SHRUC	Infrastructure requests
UC1-Landhi-Muzafarabad	1 new EPI center at Buner 1 KMC existing MNCH site needs EPI 1 existing EPI site at 50-bed hospital needs MNCH		UC5-Gadap-Songal	3 new EPI centers 15 outreach sites
UC2-Baldia-Ittehad Town	1 new EPI center (temporary dispensary)		UC7-Orangi-Chisti Nagar	EPI TBD 1 existing EPI center (50-bed hospital) needs MNCH
UC2-Landhi-Muslimabad	1 existing site needs EPI TBD new dispensaries Outreach sites		UC8-Gadap-Mangopir	2 new EPI centers
UC4-Gadap-Gujjro	TBD		UC9-SITE-Islimia Colony	TBD 1 mobile van

Table 4: Vaccinator and LHW needs by SHRUC

SHRUC	Vaccinator needs	LHW needs		SHRUC	Vaccinator needs	LHW needs
UC1-Landhi-Muzafarabad	5	10		UC5-Gadap-Songal	15	5 (one at each of the 5 facilities)
UC2-Baldia-Ittehad Town	TBD	TBD		UC7-Orangi-Chisti Nagar	TBD	TBD
UC2-Landhi-Muslimabad	TBD	TBD		UC8-Gadap-Mangopir	19 (plus 1 supervisor)	TBD
UC4-Gadap-Gujjro	TBD	TBD		UC9-SITE-Islimia Colony	4 (2 male, 2 female)	30

Table 5: Number of private providers in each SHRUC

SHRUC	Private providers to leverage		SHRUC	Private providers to leverage
UC1-Landhi-Muzafarabad	74		UC5-Gadap-Songal	153
UC2-Baldia-Ittehad Town	146		UC7-Orangi-Chisti Nagar	55
UC2-Landhi-Muslimabad	86 (4 or 5 ok with accreditation)		UC8-Gadap-Mangopir	129
UC4-Gadap-Gujjro	363 private clinics (some outreach)		UC9-SITE-Islimia Colony	62

Table 6: Priority Integrated Services by SHRUC

SHRUC	Integrated Services Request		SHRUC	Integrated Services Request
UC1-Landhi-Muzafarabad	Hygiene kits Water filtration Primary school Anti-dog campaign Dengue spray		UC5-Gadap-Songal	TBD
UC2-Baldia-Ittehad Town	Hygiene kits Water filtration		UC7-Orangi-Chisti Nagar	Hygiene kits Water filtration Birth registration Nutrition
UC2-Landhi-Muslimabad	Hygiene kits Water filtration Birth registration Nutrition		UC8-Gadap-Mangopir	Water filtration Primary school Birth registration Nutrition
UC4-Gadap-Gujjro	Hygiene kits Waste disposal		UC9-SITE-Islimia Colony	Mental health services

DETAILED PROFILES AND ACTION PLANS FOR EACH SHRUC

The following pieces are still in development:

[Paste the maps of existing services for the remaining 4 SHRUCs, and maps of future services outlined in this plan, from AKU when they become available]

[Paste the final tables from this spreadsheet when we have all the updated info following consultations with UCs]

Karachi 8 SHRUC workshop outputs_12.