

Supplementary file S1

"Using Experience Based Co Design to Develop
an AI-Powered Digital Learning Platform for
Immunization in Pakistan"

Data Sources from Karachi and Qamber
Shahdadkot Co-design Workshops

- Need Assessments, Challenges, Facilitators
and Recommended Solutions



Alliance
for Health Policy
and Systems Research



**World Health
Organization**

Need Assessments and Solutions

Development and piloting of **AI based** Digital
Learning Platform for Immunization in
Pakistan

April 29th 2025

Co-Design Workshop Findings

What participants wanted to know?

Co-design Workshop Handout

Development and piloting of AI-based Digital Learning Platform for Immunization in Pakistan

Group Members Names: ALPHA GROUP

1. GATHER:

	What do you know about the immunization training module?	What do you want to know about the immunization training module?	What would be the effective mode (digital or manual etc) of learning?
1			
2			
3			

Co-design Workshop Handout

Development and piloting of AI-based Digital Learning Platform for Immunization in Pakistan

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Co-design Workshop Handout

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Target Diseases and Vaccines

The Vaccine Cold Chain

Ensuring Safe Injection

Micro Planning

Immunization Session Planning and Surveillance

Personal Communication

IPC

Group learners	Group 5 Stars	Group Warriors	Group Alpha
Module 1	Module 1	Module 1	Module 1
Symptoms of 12 VPDs	How to manage Specific Antigen refusal	Knowlegde about self protection about VODs	Information of diseases
Watsapp videos of Doctors	Reliogous beliefs about Measels	Digital videos for protection	Prescription of medicines to understande
Youtube Channel	Private provider vaccination cards		They consider us doctor
Practical training	Voice chat bot		Enter disease name and symptoms appear
mmunity.			Every vaccine indication
Module 2	Module 2	Module 2	Every vaccine contraindication
r Temperature +2 ,+8	Information about cold and hot sensitive vaccir	Backup voils	Incubation period
Standard Maintenance	Cool bags and icebags difference		
To check ourselves about the temperature change	Coolers and Bags are heavy		Module 2
Chatbots to interact			We should know earliers about the vaccine temperatur
			In holidays, we should know about our vaccines
Module 3	Module 3	Module 3	Module 3
Injection preparation (wipes / alcohol swabs)	AEFI information	protection from injection	Syringe capping and uncapping technique
Videos of techniques	Techniques issues to insert	information about syringes to guide communi	Prick pressure – how much
Supervisor should be connected with the vaccinator	Complains of vaccine staff	Why 2 and 3 injections	Duration of needle to be inserted
Module 4	Module 4	Module 4	Module 4
Area mapping	vaccinator self check the population	Supoervisor conectitons	planning authentic
Zerodose list	priavte vaccinator information	digital microplanning	self dependents
IPC skills	microplanning		
Van arrangement	UC staff		
Guidelines for microplanning			
Whole microplanning 28-30 pages could be uploaded			
Formulas could be added for outreach services phased wise			
Module 5	Module 5	Module 5	Module 5
Corss trainings between good and bad performance UCs	Community engagement medical camps	Attractive videos pictures	timely connection with outreach and health facility
People demand for vaccination at home when facility is far			
Mdoule 6	Module 6	Module 6	Module 6
Guidelines for vaccinaotrs	vaccinators check the population	Happy parents videos	Community shoule be infomed prior
		digital clips on the spot	Connection with social mobilizer and influencer
Module 7	Module 7	Module 7	why skin become red and swell
Pre and apost counseling assessments	IPC skill improvement	improved skills	about lump and fever
Professionalism skills in couselfing		local language	
language barriers		convenient	Module 7
Watsapp animated caroons			Knowledge IPC
Commonly used words in regular introduction			Enaging
Visuals are more important			simple words
Stories of measels pre-during and post effected child			satisfy the caregiver



Knowledge
gaps



Implementation
gaps



Knowledge
gaps

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Vaccinators
and Social
Mobilizers





Challenges and Facilitators

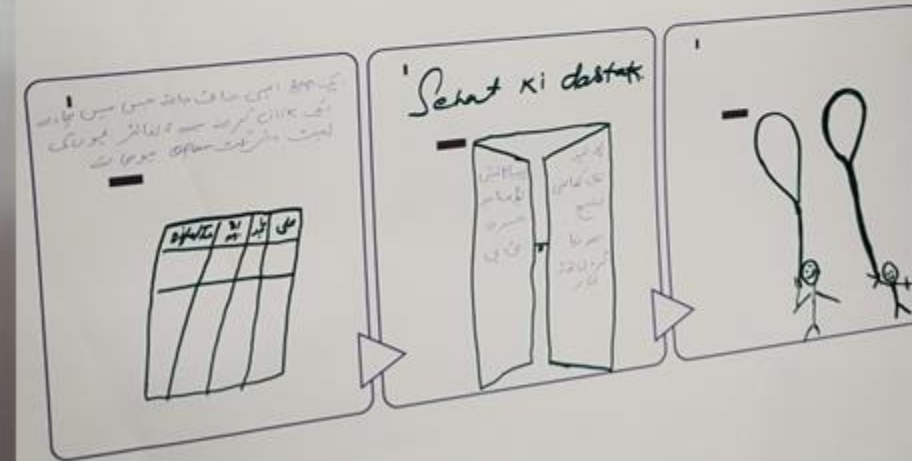
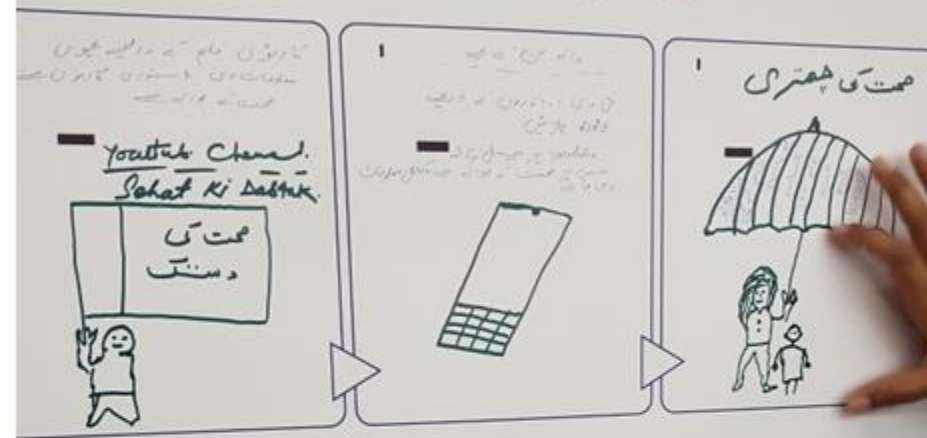


<u>Challenges</u>	<u>Challenges</u>	<u>challenges</u>	<u>challenges</u>	<u>challenges</u>	<u>challenges</u>			
Getting late due to traffic	Dealing with refusals	summer heat and vaccinations	Need better transport, have to carry ex	site planning and micro	language barrier			
No contact with vaccinator	Last minute changes	data issues, limited access and	fuel card blockage	refusals and non coope	no avaialable site due to unexpect			
Vaccinator on leave	Limited supply of vaccines	logistics issues	on-field issues	conversion of zerodose	unsupportive partner staff			
Doctor who was supposed to deal with re	No GPS at all locations	infrastructure issues like digged	focal person not available during adver	not reaching target	mismatch of mindset with partner			
Urgent arrangement of new site for outre	Refusal of Penta refusal after 2	No space for conducting outreach			incomplete data from TBAs			
Sad when cant achieve target	Wrong vaccine administration	parents force vaccine administration in already diseased child due to lack of information			entanglement due to refusals			
Lack of panadol		measles outbreak	burden of work, unexpected challenges like last minute changes		not appreciated			
Persistent refusal		refusals	language barrier		vaccine wastage due to protests			
inability to locate defaulters		lack of appreciation	lack of scar forming after BCG					
			administration of 3 vaccines together					
			bad weather					
			no-shows of defaulters					
<u>Facilitator</u>	<u>Facilitator</u>	<u>Facilitator</u>	<u>Facilitator</u>	<u>Facilitator</u>				
Involve LHW in outreach	Online data collection	Bike and transport available	pleasant atmosphere, good sitting arrai	community mobilizers and LHWs				
Feels accomplished after target achievem	Attendance of vaccinator	Good coverage	on-time achieving target	partner staff coordination				
Feel nice when parents initiate vaccine cc	Happy when target achieved	Meeting with DHO lead to discussion of challenges		statisfied parents				
	When family agress							

Recommendations and Solutions

STORYBOARD TEMPLATE: A visual representation of an idea or prototype, enabling testing with prospective users

صحت کی دستک



Compasica 'Shaping Stars'

App Name: Mini Madani

App Features:

- Search - Search for a location
- Location - Location of the location
- District - District of the location
- Province - Province of the location
- Country - Country of the location
- Language - Language of the location
- Religion - Religion of the location
- Gender - Gender of the location
- Age - Age of the location
- Education - Education of the location
- Occupation - Occupation of the location
- Income - Income of the location
- Assets - Assets of the location
- Liabilities - Liabilities of the location
- Net Worth - Net Worth of the location
- Health - Health of the location
- Family - Family of the location
- Community - Community of the location
- Environment - Environment of the location
- Infrastructure - Infrastructure of the location
- Services - Services of the location
- Facilities - Facilities of the location
- Resources - Resources of the location
- Challenges - Challenges of the location
- Opportunities - Opportunities of the location
- Recommendations - Recommendations of the location
- Solutions - Solutions of the location

Goal children

- Age
- Gender
- Religion
- Education
- Occupation
- Income
- Assets
- Liabilities
- Net Worth
- Health
- Family
- Community
- Environment
- Infrastructure
- Services
- Facilities
- Resources
- Challenges
- Opportunities
- Recommendations
- Solutions

Reminder - For Parents

- Due date
- Coverage + Referral + R. converted + Deferral etc

(S. 2nd year)

App

STORYBOARD TEMPLATE: A visual representation of an idea or prototype, enabling testing with prospective users

