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Ethiopian Health Education and Promotion Professionals Association (EHEPA) Seminar

Human Centered Design for Immunization in Pastoralist Communities, Case Study for Turkana County, Kenya

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Living Labs Kenya



A photograph of two scientists in a laboratory. They are wearing white lab coats, blue surgical masks, and safety glasses. The scientist on the left is also wearing blue gloves and is holding a clear plastic bottle with a red cap up to the light. The background is filled with laboratory equipment, including shelves with bottles, pipettes, and other scientific instruments. A large blue hexagonal graphic is overlaid on the left side of the image, containing text.

PATH'S MISSION

Advance health
equity through
innovation and
partnerships.

Our approach

Combining human-centered design (HCD) that **prioritizes listening and empowering users** with a process led by in-country experts who understand the local healthcare system and users, we mobilize from **rapid ideation and prototyping to iterative testing quickly to achieve sustainable solutions** that increase health system capacity and resilience.



Define and gain multi-stakeholder insight into a problem



Co-design viable solutions with key stakeholders



Evaluate early for viability and test solutions in context

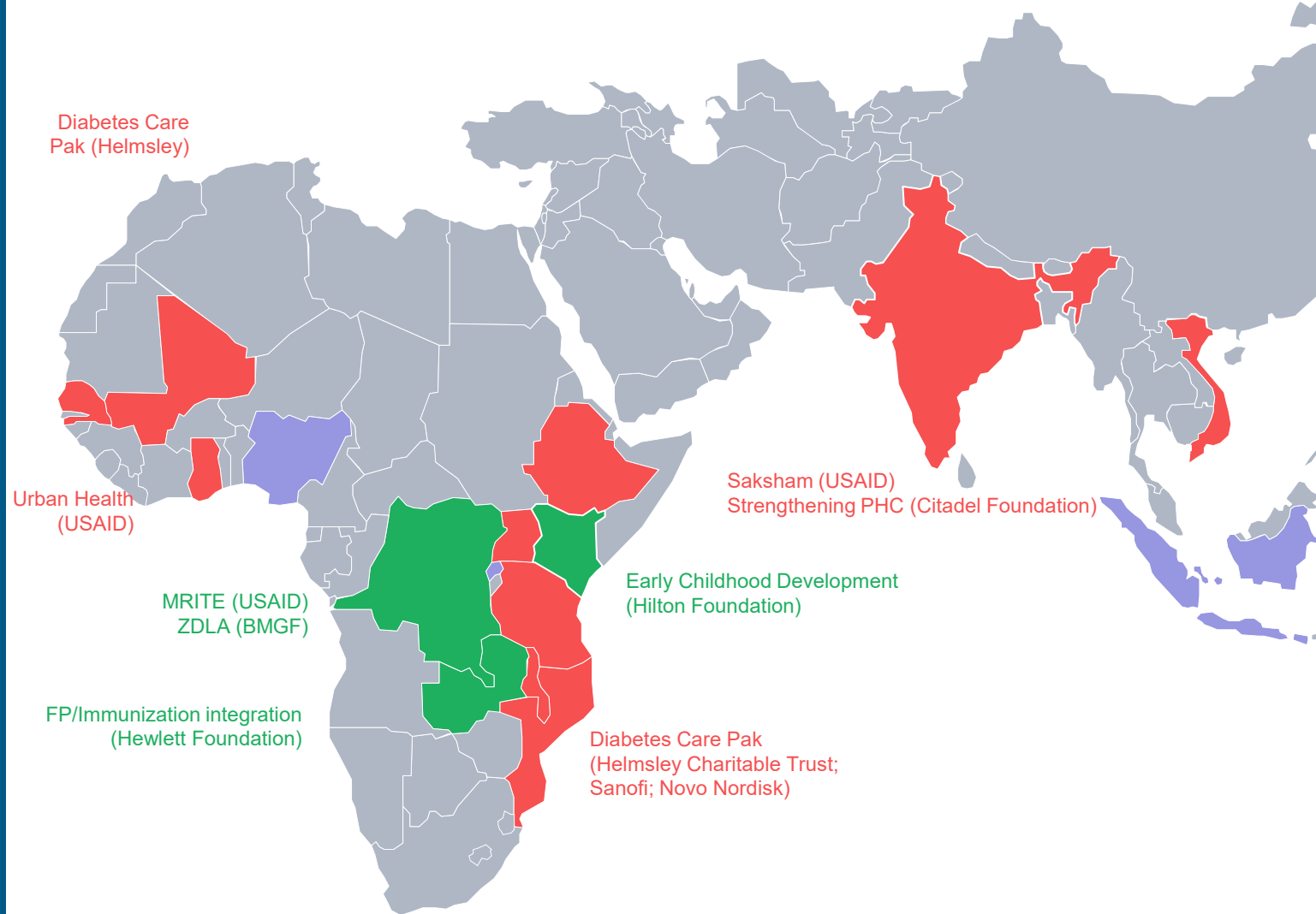
**Better Solutions.
Better Outcomes.
Better Sustainability.**

Amplifying the impact of Living Labs' assets...

...through our global footprint

Living Labs applies its expertise to address diverse health challenges as we expand our global footprint.

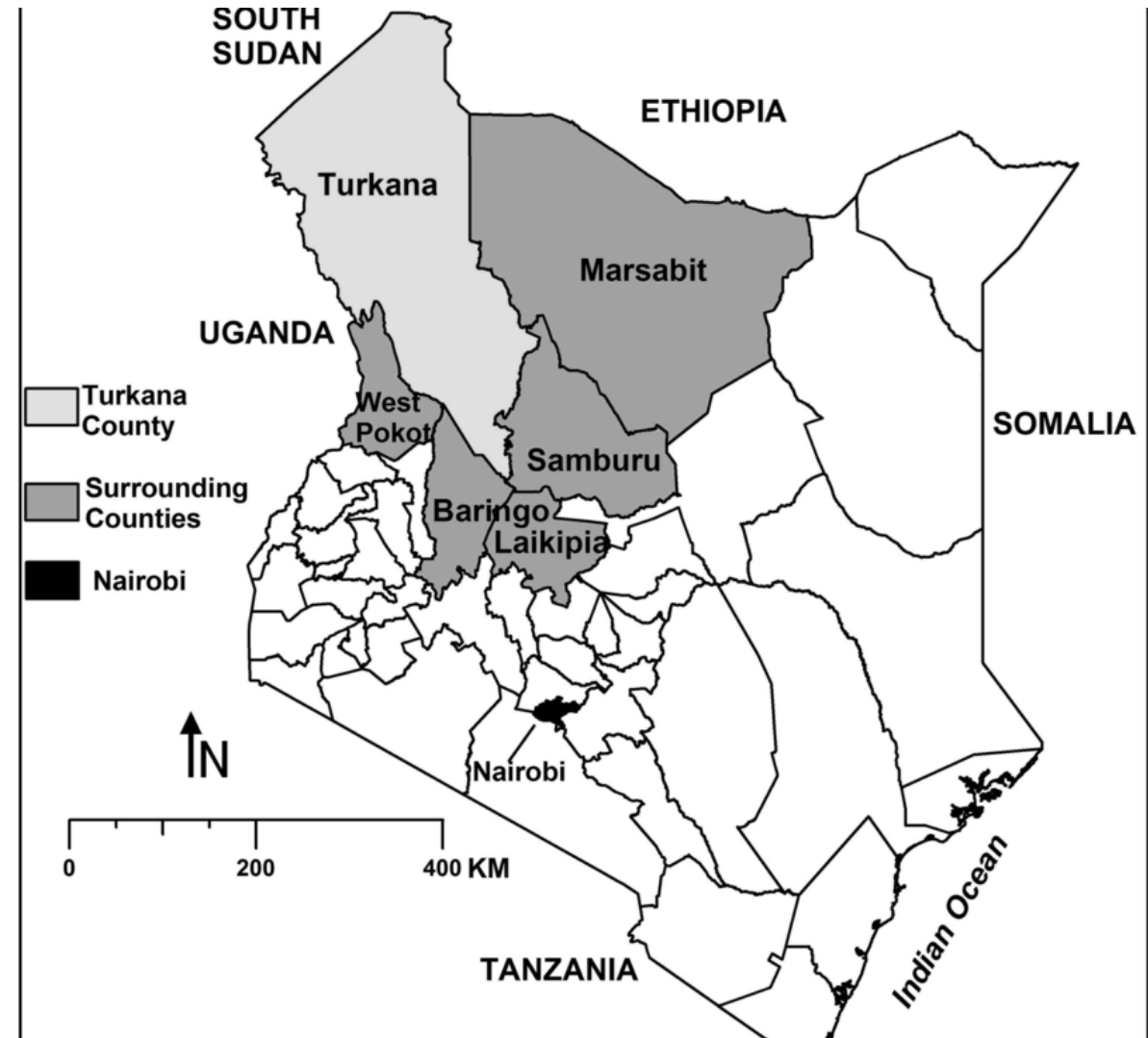
- **3 core countries** (Kenya, Zambia, and DRC)
- **10 countries with alternate working models** (Ethiopia, Ghana, India, Malawi, Mali, Mozambique, Senegal, Tanzania, Uganda, Vietnam)
- **Additional expansion geographies via partners**



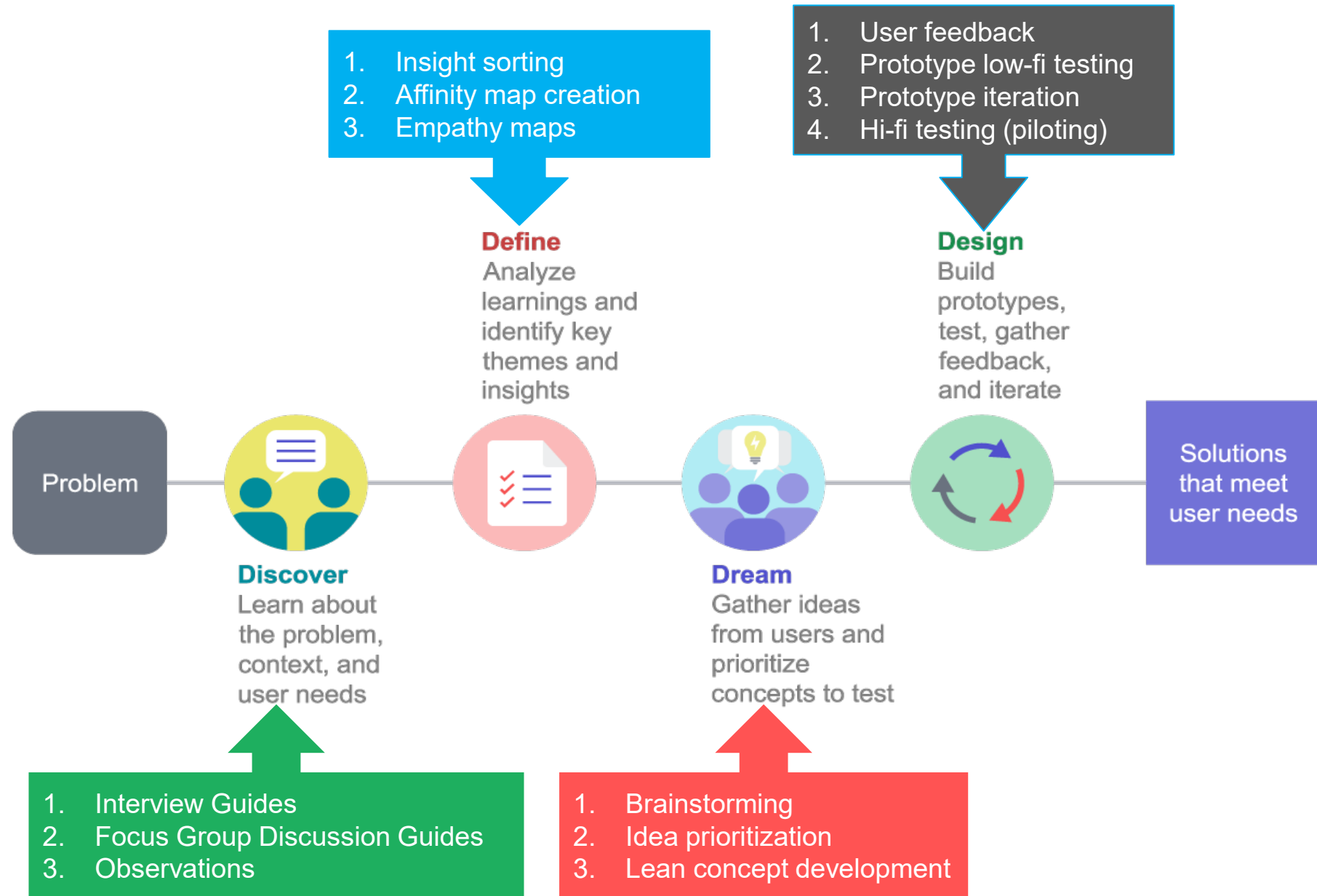
Turkana County, Kenya

The majority of people in Turkana County are pastoralist, and their livelihoods are closely tied to the land and livestock.

- Primary economic activity is livestock with most cash earnings coming from selling livestock or livestock products.
- It is located in the arid and semi arid lands (ASALs) with low rainfall and high temperatures.
- Access to clean water is a major problem, with communities travelling up to 15km to reach water points.



Methodology: Living Labs 4D approach to HCD



User research process – stakeholder mapping

Dependent on the needs of a project, **stakeholder mapping** is a crucial step to ensure you get insights from all the relevant people linked in one way or another to the challenge at hand.

For example, for our HCW motivation work, which focused on improving HCW motivation to increase immunization coverage, we needed to deeply understand the intrinsic and extrinsic motivators for HCWs and how these could affect their performance at work.

In our immunization demand work, we collaborated with county and subcounty officials, to facilitate a series of workshops to engage and capture insights from different user groups. The objectives of the user engagement activities were to:

- (1) Develop an understanding of the user profile.
- (2) Develop empathy for users' experiences, needs, and motivations in relation to receiving or delivering immunization services.
- (3) Gain an in-depth understanding of how different factors from the user experience affect demand for key vaccines.

County	Sub-counties	Caregivers	HCWs (nurses)	CHWs (CHPs & CHAs)	Opinion leaders	Total
Turkana	Turkana East Turkana Central Turkana West Loima	39	22	56	36	153

User engagement tools – tools selection and development

User group	Focus area	Approach/tool used
Health care workers	HPV vaccine dose 1 & 2, and MR2 vaccine	Engage each user group separately through an FGD using a guide designed specifically for that group.
Caregivers with girls between 10 and 14 years old and with children between 9 months and 5 years old		
Community health promoters		
Community health assistants		
Opinion leaders (teachers, religious leaders, administrative leaders, traditional elders)		
Caregivers with zero-dose children	ZDC	Engage each caregiver identified on a one-on-one basis , with the interview done at the location of the caregiver (most likely his or her home) using an in-depth interview guide.

Through the user research activities, we captured more than 2,000 caregiver, community, and health worker comments – Affinity mapping

Community Health Assistants

Assumption of vaccination Schedules

Not anyone, there are just difficult people in the society, those who feel like this immunization is for us and not for them. If you don't follow me up, I became so comfortable, and the reason why MR2 is doing poorly, previously we were used that at 9 months we are done with immunization, even the mother child booklet is lost. Now for a mother to count that now my kid is 1 and half years to take her for vaccine is hard. That is why most children are given the dose at 2 years plus.

I think they are crosscutting, coz like for malaria 4 which is doing poorly, so most of them have not mustered that the child should go for clinics up to 2 years, just like number 5 said, that most mothers after reaching nine months, they are done with clinics. So they must be followed by CHV.

INSIGHT: Some caregivers mistakenly believe that baby vaccinations end at 9 months based on an outdated schedule from years ago. As a result, they assume that their baby has completed all the necessary immunizations once they reach nine months unless they are followed up by community health volunteers (CHVs) who can provide updated information.

9 PATH Living Labs HCD approach – a look at engagements in a pastoralist setting, Turkana County

Village admins

Knowledge

We have not heard about it. (Response from all)

I just heard about it in the media when they were launching the vaccine.

I have not heard about it in Turkana.

That vaccine has not reached us.

INSIGHT: The consensus among village admins is that they are not familiar with the HPV vaccine. Although a few have encountered mentions of it in the media, they remain unaware of HPV vaccination specifically within the Turkana County

Suggested Solutions

Through sensitization, educating them and when others go to the facility we tell them. So through barazas you tell their parents

Yes. But we can only begin it when it is an information that is out because after MOH discuss that is when we are given to relay.

Yes if they had the information they could have told us so that we give the information to the villages.

Proper awareness and through trainings.

The ministry after having this information, they should then inform us to have a one day training then after that we go and deliver this information.

Using the raw data, the thematic analysis was sorted into affinity maps.

“I have not heard about that ... I only know some herbs to use when she is sick” (Akai's story)



User engagement with community members in Turkana County. Photo: PATH/Chris Obong'o

Akai, along with approximately ten other families, recently moved into Natiir village, Turkana County, after a period of being away in search of pasture and water. On a quest to interview caregivers with ZDC, the Living Labs team was introduced to her through a community health promoter (CHP). She doesn't speak Swahili, and so the CHP who accompanied us acts as our translator.

Akai has three children (5, 3, and 2 years old), none of whom has been immunized. We ask whether she knows about the routine antigens, and she says not unless we tell her about them and about the diseases they prevent. Gauging from her responses, we embark on a short sensitization session on routine immunization, the antigens, what they prevent, and the schedules. She's very receptive to the information and agrees to follow through with immunization for her three children.

Despite our win in enlightening this one caregiver, distance and language barriers keep many families such as Akai's away from critical information that can influence better health-seeking behavior.

Working Conditions: Pastoral Environment

"One of the challenges I face is dealing with children who missed opportunities to get vaccinated. This is mainly due to the **migration of pastoralist families**. for instance, a child can come to the facility for the first time after 6 months."

-Nurse, Turkana County

"one of the challenges is that these are pastoralist communities, so they **keep moving**; so we work closely with CHPs to ensure we track down the clients"

-Nurse, Turkana County

"We have a system/sketch showing **patterns and seasons** of movements. Being used for nutrition and immunization..."

-Nurse, Turkana County

"Facilities involve PHO and CHPs to track pastoralist children but it **is hectic** as it not 100% effective."

-Nurse, Turkana County

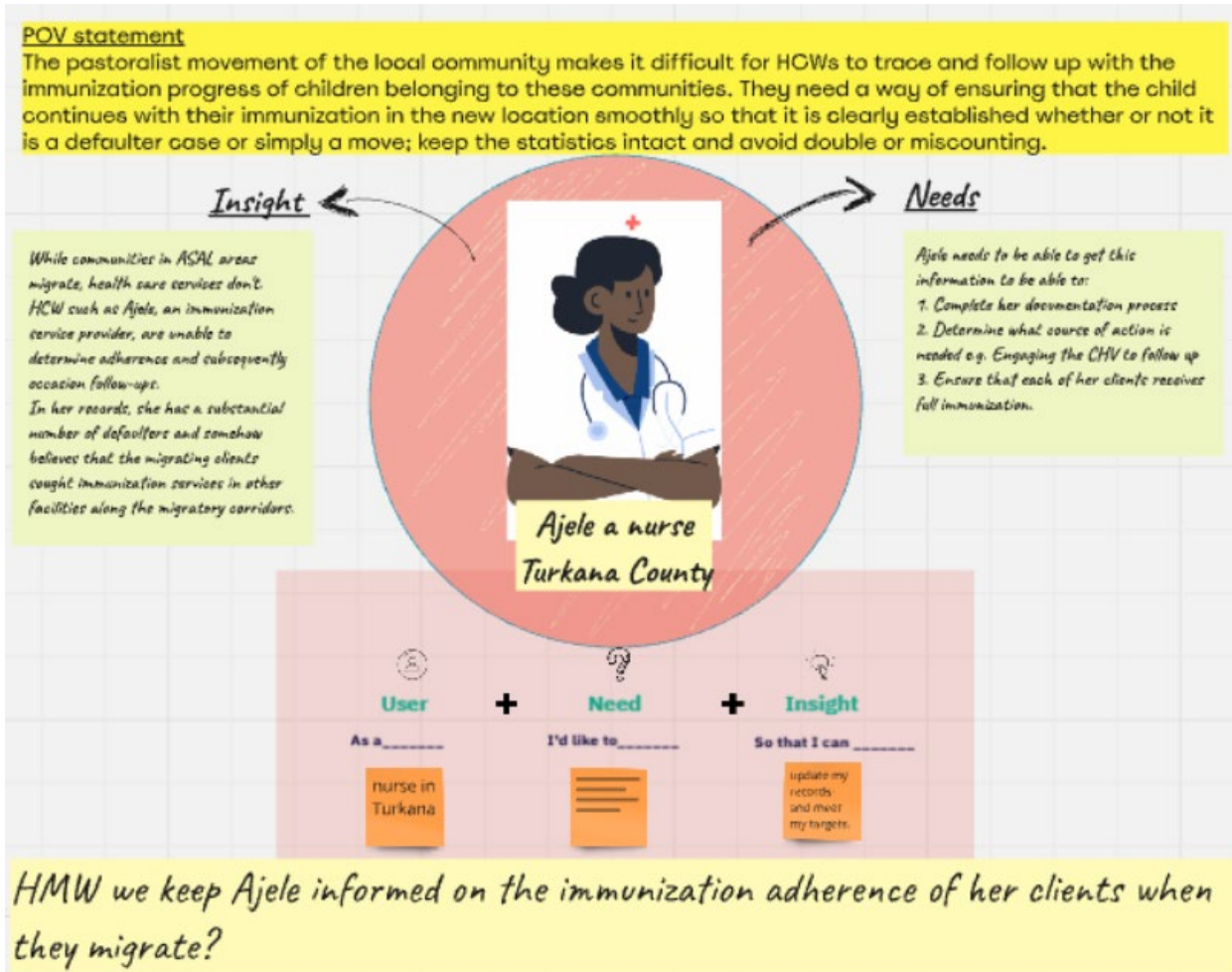


Turkana County arid climate forces communities into a nomadic lifestyle

Photo; PATH Living Labs

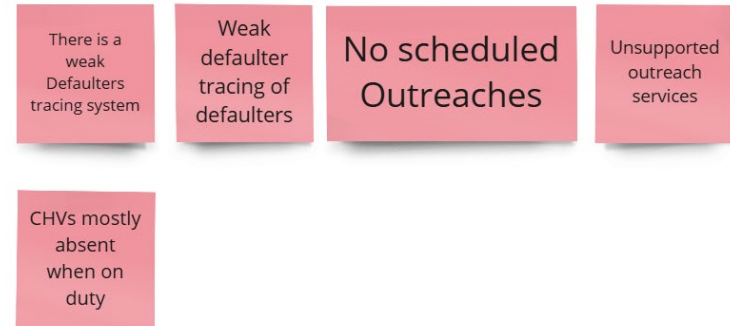
Solution ideation: Co-creation

This part of the process brings together all the stakeholders engaged during the discover phase to ideate on the challenges defined after analysis. This is based on a POV/ problem statement and a How Might We (HMW) question.



Pastoral Communities

How does it look now



Ideas



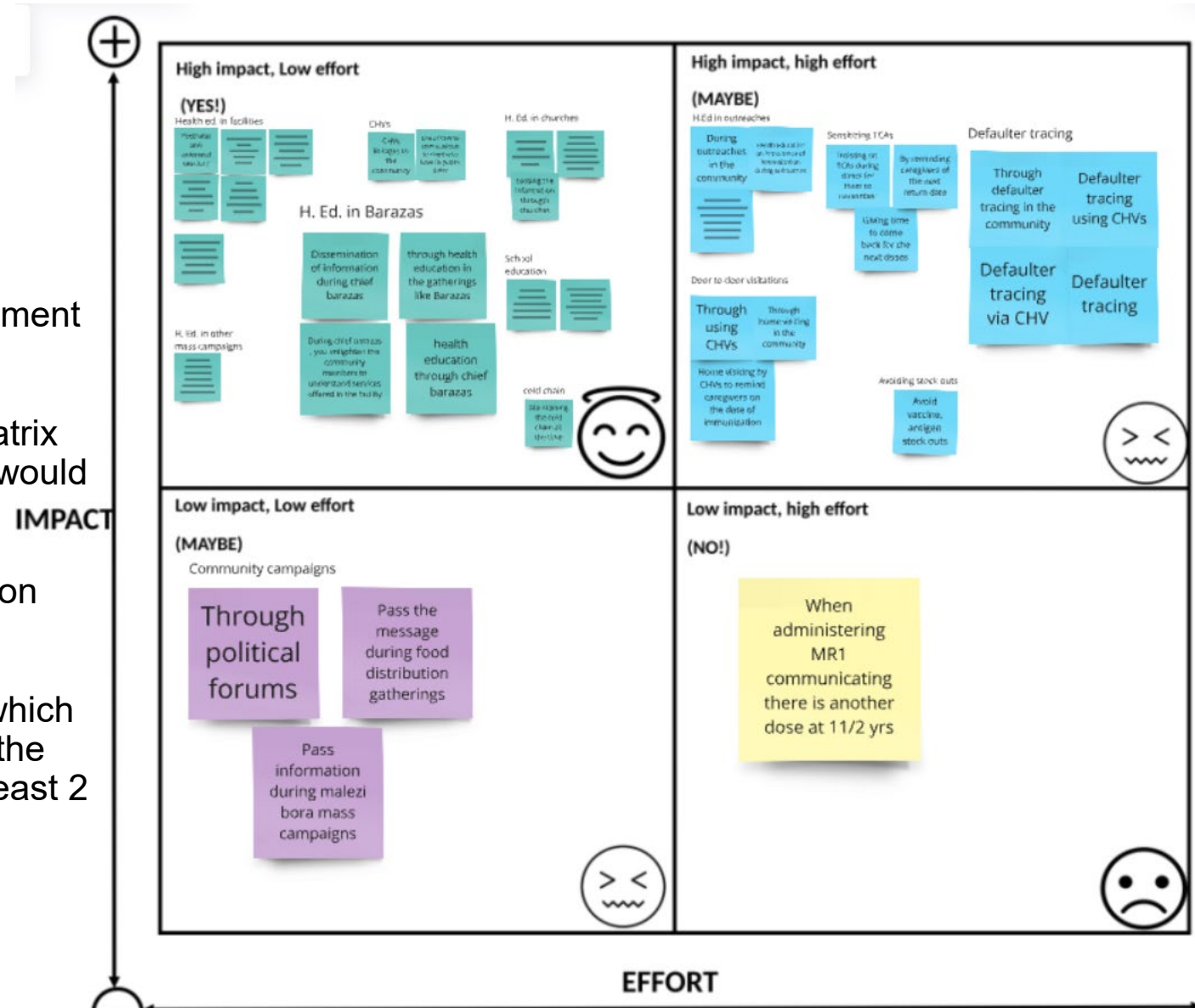
Solution ideation: Idea prioritization

After ideation, sorting is done to put ideas that are similar together and put together those that compliment each other.

To further prioritize solutions, teams use the 2*2 matrix to categorize them based on the impact a solution would have vs the effort it would require.

This results in ideas the team can focus on that lie on the first row- those with high impact.

After this, the team discusses among themselves which solutions they should move forward with based on the easiest to implement and most impactful ones. At least 2 or 3 can be picked and further defined using lean concept sheets.



Lean concept sheets – low fidelity prototyping

A lean concept sheet describes a solution, its features, what inspired it and some of the supplies needed to prototype it.

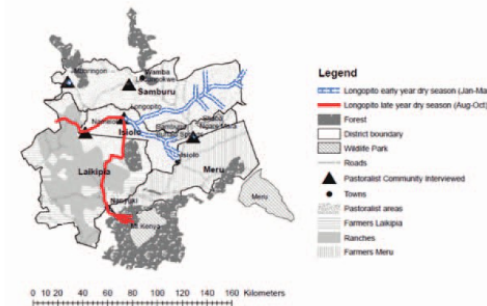
This is used to present to other teams to **get feedback** and can be further refined and used to get feedback from users.

The next step, after receiving positive feedback around the desirability, viability and feasibility of the solution is to develop a detailed concept sheet.

Concept Name: **Nomad's RD**

Description/Sketch

Migration routes Longopito Community, Isiolo, Kenya



The Nomad's RD is a database that shows the migratory corridors taken by the pastoralist communities in Turkana county. Apart from the routes taken by these communities, it also contains the seasons during which migration takes place and how frequently a group might migrate in a year. Local elders and chiefs are key in contributing to this database as they are normally aware when a group has migrated and where they have migrated to. Healthcare providers have a hard time keeping accurate records of their clients with regards to whether one has defaulted or has just migrated. Having such a database will allow healthcare providers liaise with CHVs so that they can follow up on the clients more easily having known their possible whereabouts.

Y-m-d

FEATURES

- Collaboration among chiefs and local elders in the region
- Capacity building CHVs on how to use the database for tracing/tracking of clients.
- Communication system among CHVs and HCWs in a regions

INSPIRATION



Marathon routes

PROTOTYPING SUPPLIES

- Story board
- Sample database

Crazy (innovative) Feasible (we can actually do it) Viable (we don't go broke) Desireable (people want it)



Facility stamp

Utilizing the mother-child booklet as a simplified communication link between facilities

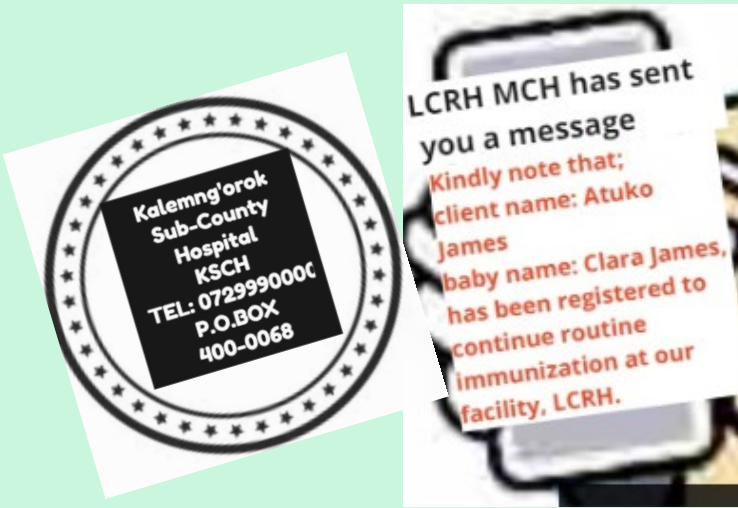
Point of View

While nomadic communities in Arid and Semi-Arid Lands areas migrate, health care services don't. Immunization service providers are unable to determine adherence and subsequently occasional follow-ups.

In their records, there are a substantial number of defaulters and they somehow believe that the migrating clients sought immunization services in other facilities along the migratory corridors.

Design Challenge

HMW we keep immunization service providers informed on the immunization adherence of their clients when they migrate?



'Some Children are taken to other facilities for subsequent Vaccines'

HCP on occurrence of client movement to different facility

Description

This concept is aimed at creating a communication link among facilities in a county. This communication link entails putting a stamp on pages 33, 34 and 35 of the mother-child booklet of each client. The stamp contains the facility name and MCH contact where each immunization was received.

In the event that a client visits a new facility at any point, it is possible to track and inform the previous facility of the client's movement either via SMS or making a call.

Link To Motivation

Having the right data to put in one's records is key in giving the real picture of immunization coverage in the county with respect to the targets set for each facility.

The ability to clearly distinguish between clients who have defaulted and those that have simply moved is an important piece of information to all front line immunization service providers who serve in pastoralist communities.

Features

- Stamp containing facility name and contact of the MCH
- Communication to all facilities in the region as to what the stamp is meant to do in case they get a new client who has the previous facility's stamp.
- Communication channel between facilities; SMS or Calls

Impact Areas

- Defaulter tracking & tracing
- Job satisfaction
- Proper immunization record keeping

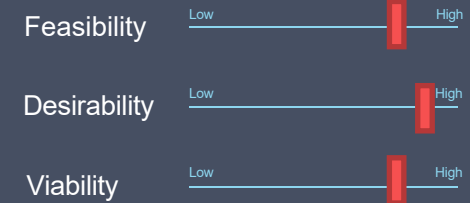
Potential Barriers

- Client movement outside Turkana
- Client losing the booklet

User Data

- Turkana County
- 10 Facilities
- 12 Participants
- 3 Male / 9 Female

Concept Evaluation



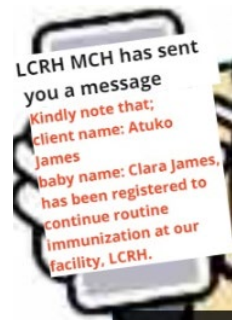
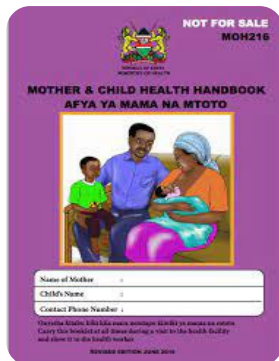
Evidence From Literature

A significant number of children thought to be defaulters were children who had been vaccinated in other facilities in the districts or in other neighboring districts. These false defaulters, unless tracked and documented, contribute to incorrectly elevated defaulter rates, notably in urban facilities like Kisumu and Oyugis district hospitals. (Evans Mokaya, Isaac Mugoya, Jane Raburu, Lora shimp, 2017)

Facility stamp

Objective: Link facilities within a region such that each is able to input correct data in their records with regards to whether a client has moved or defaulted as a result of pastoralist movement.

Resources



1. Mother and Child Booklet
2. Stamp containing the name and contact of a facility
3. Communication channel; call or SMS

Step 1: Development

- HCW gets a stamp having the facility name and contact

Step 2: Execution

All HCWs stamp each of their clients mother & child booklet on either page 33, 34 or 35 depending on the stage at which they received a client. This applies to those HCPs that are responsible for filling in the booklets.



PRESENT		
ABSENT		
Repeat vaccine BCG (Date repeated)		
POLIO VACCINE: (Bivalent Oral Polio Vaccine(bOPV):	Date Given	Date of next visit
Dose: 2 drops orally		
Birth Dose at birth or within 2wks		
1 st Dose at 8 weeks		
2 nd Dose at 10 weeks		
3 rd Dose at 14 weeks		

Step 3: Tracking and Monitoring

Upon movement of a client to another facility, the HCP in that facility checks the stamp. He/she is able to note the previous facility the client had visited and notify them of the client's move.

The previous facility records the client to have moved to a different facility and not to have defaulted.



Discussion

Q & A

Let's
connect:

Visit our website:

<http://www.path.org/livinglabs>

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Learn how to partner with us:

<https://www.path.org/resources/living-labs-playbook/>

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