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## Better Supply Chain System Design Through a Human-Centered Design Approach to Improve MNCH Commodity Availability: The Experience in Nigeria

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# Content



- Context
- Methodology
- Output

The study focused on developing a user-centric understanding of the MNCH system and co-creating solutions to improve commodity availability and usage

**Problem Statement:** What interventions can increase the availability and usage of MNCH commodities in Bauchi, Sokoto, and Kebbi state?

## Context

- The MNCH supply chain systems in these three northern Nigerian states were **fragmented** and underperforming
- This resulted in commodity **stockouts** at service delivery points and **low uptake of MNCH services** by mothers and children
- GHSC-PSM leveraged a human centered design (HCD) approach to fully **understand the challenges** facing the supply chain and develop a strategy and **implementation plan to ensure a sustainable** supply chain for essential MNCH commodities in these states

## Objectives

- Work with stakeholders to **understand challenges resulting in MNCH commodity stockouts** in health facilities in Bauchi, Kebbi and Sokoto states
- Identify key **opportunities for improvement** across user journeys and value chains
- **Co-create a set of ideas and SCM solutions with users** to improve MNCH commodity availability and access in the three states

# Background: HCD approach in MNCH supply chain

- Human-Centered Design (HCD) is a creative and iterative problem-solving approach that begins with the people for whom a solution is being designed and ends with solutions that are specific to their needs
- It has been used to improve patient management in healthcare, develop products such as alternate cooking sources in poor communities, and to improve workflow processes
- It has been suggested that the HCD approach, although with relatively limited application in supply chain management, can be applied to reduce stockouts of healthcare commodities
- GHSC-PSM took the opportunity to apply HCD to address stockouts of MNCH commodities at service delivery points in northern Nigeria

# HCD Activity: Five principles of engagement

## Inclusiveness

Collaborated with **all actors within the supply chain system** to ensure that interventions **explicitly addressed the pain-points of all relevant stakeholders**

## On-the-ground Presence

Present on ground in each state and worked with all stakeholders to ensure that the **perspectives** of the actors within the ecosystem were **reflected accurately**

## Design Thinking

**Utilized innovative design thinking techniques** such as **visual stimuli**, concept sketches and **low fidelity prototypes** to co-create, co-design and refine interventions

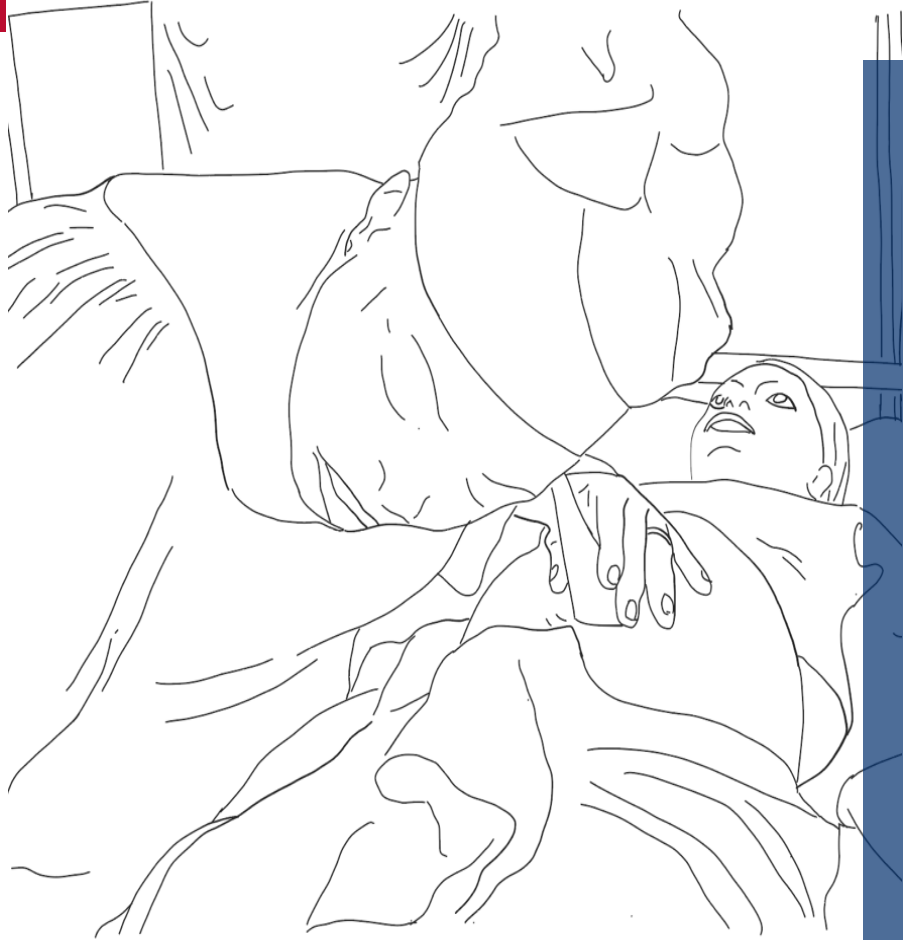
## Pragmatism

Identified interventions that are **implementable in 12 months**, while remaining cognizant of **long-term sustainability** of the interventions

## Cultural Sensitivity

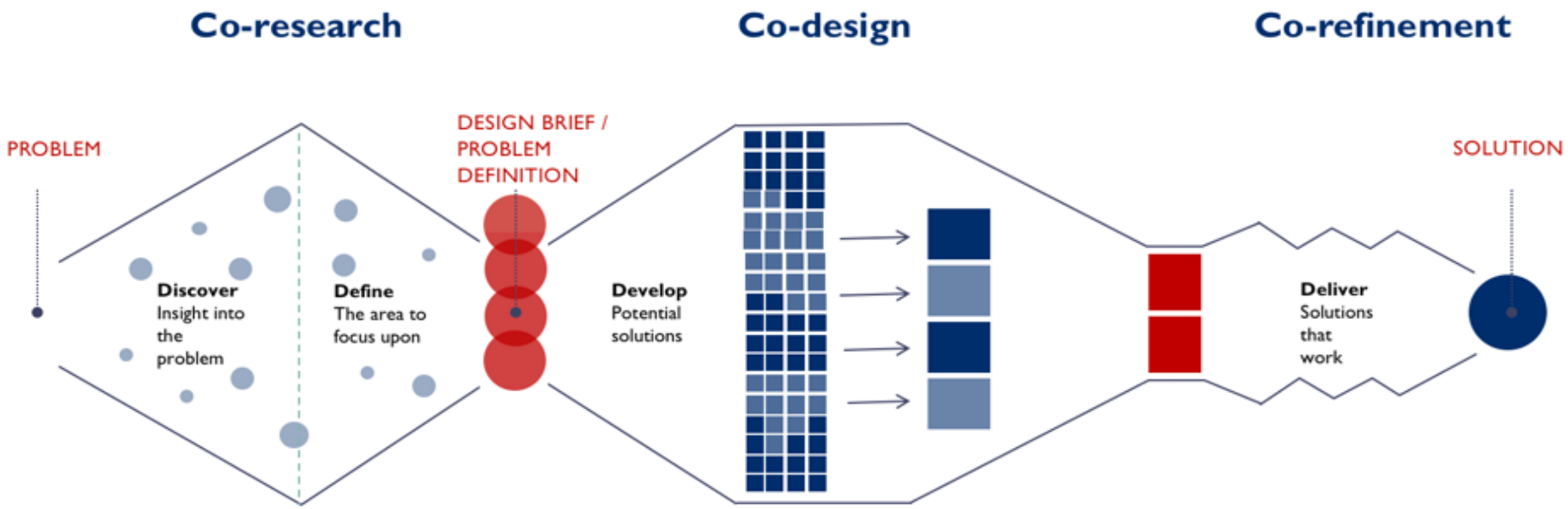
Conducted research and ideation on a **state-by-state basis** so that the **particularities of each state** could be captured. Then, in the later phase, encouraged **cross-pollination of interventions**

# Content

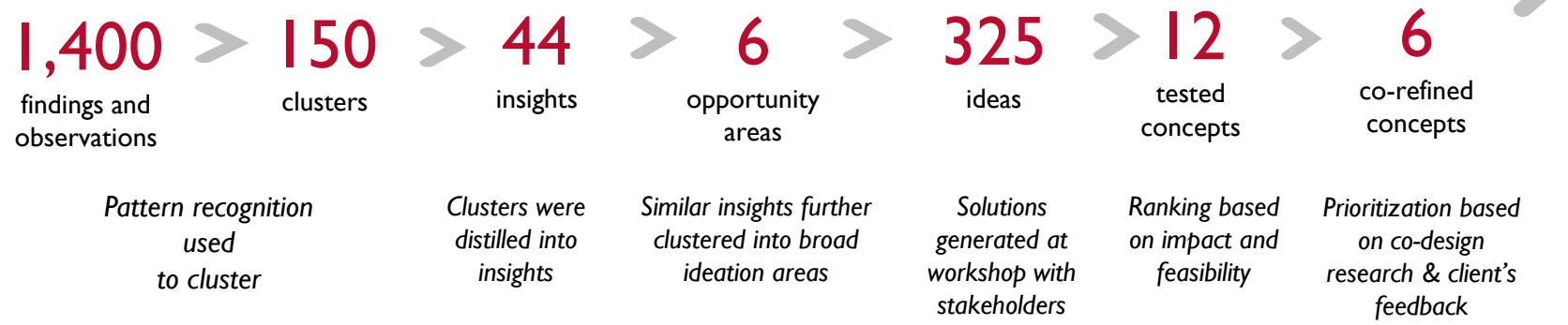


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# Three distinct phases to the HCD process with clear outputs



## REFINED OUTPUTS



# >400 stakeholder interactions across the 3 states generated solutions to improve MNCH commodity availability and usage

## Stakeholder groups

## Examples

■ Number of touchpoints

169	<b>State leadership</b>	<ul style="list-style-type: none"> <li>▪ Commissioner of Health</li> <li>▪ Director Pharmaceutical Services</li> <li>▪ Director Medical Services</li> <li>▪ Director Planning Research &amp; Statistics</li> <li>▪ LMCU Coordinator</li> </ul>
16	<b>LG leadership and operations</b>	<ul style="list-style-type: none"> <li>▪ Local Govt. Area LMCU Coordinator</li> <li>▪ PHC Director</li> <li>▪ MNCH Coordinators</li> </ul>
44	<b>Facilities</b>	<ul style="list-style-type: none"> <li>▪ Doctors</li> <li>▪ Pharmacists</li> <li>▪ Midwives, nurses</li> </ul>
55	<b>Community</b>	<ul style="list-style-type: none"> <li>▪ Ward Development Committees</li> <li>▪ Community-Based Health Volunteers</li> <li>▪ Traditional barbers</li> </ul>
28	<b>Development partners</b>	<ul style="list-style-type: none"> <li>▪ Multilaterals</li> <li>▪ UN agencies</li> </ul>
13	<b>Influencers</b>	<ul style="list-style-type: none"> <li>▪ Community heads</li> <li>▪ Womens groups</li> <li>▪ Husbands</li> </ul>
51	<b>End users</b>	<ul style="list-style-type: none"> <li>▪ Mothers and children</li> </ul>
29	<b>Private sector</b>	<ul style="list-style-type: none"> <li>▪ Private hospital operators</li> <li>▪ Pharmacists</li> <li>▪ PPMVs</li> </ul>





# CO-DESIGN METHODOLOGY: WORKSHOP

During the ideation workshop, 325 ideas were co-generated with stakeholders around the prioritized opportunity areas

Leveraged learnings from the ecosystem and journey maps, personas and insights



Used an idea template to populate as many ideas as possible per round

IDEA CARD / KATIN RAYI	
Name of the idea Sunan ra'ayi	Target audience Su waye za su amfana
Description Bayani	
Illustration Zanen bayani	

In hour-long rounds, mixed participant groups solo generated and then discussed their ideas



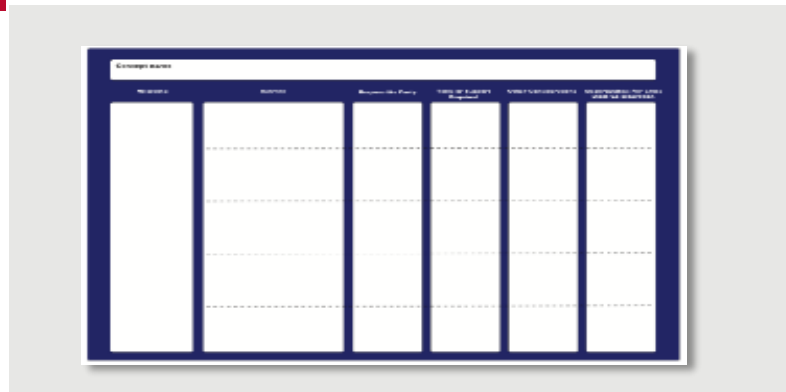
Participants clustered and voted on their ideas allowing us to prioritize what resonated most in each state



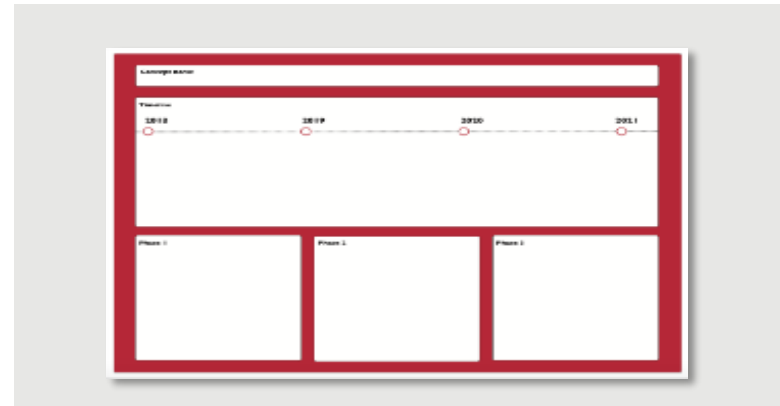
# CO-REFINEMENT METHODOLOGY:WORKSHOP

## The 6 prioritized concepts were taken into a co-refinement workshop for implementation planning

Activity work plans were detailed by each state for all 6 concepts...



...Followed by a detailed timeline to determine key deadlines and project phases



Active facilitation of sessions helped participants craft detailed workplans with state specific implementation nuances



A cross-state refinement workshop allowed each state to understand how their solution might be localized differently and to learn from others



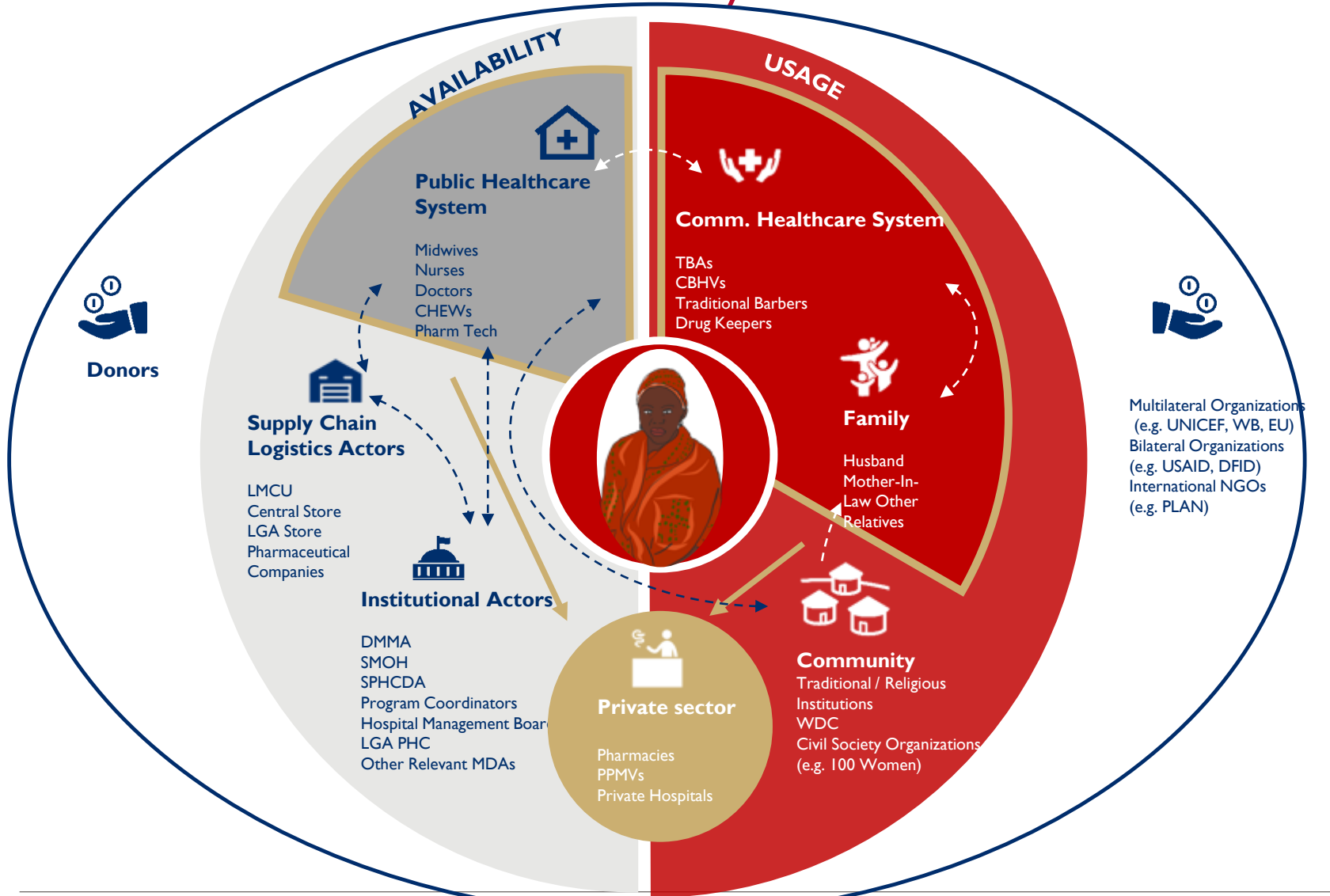
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# CO-RESEARCH OUTPUT: ECOSYSTEM

## Created a map of people and interactions connected to mothers and children within the MNCH ecosystem





# 15 insights were identified in Kebbi...

## OVERARCHING

- Lack of clear data management systems have led to poor supply chain visibility and decision making

SUFFICIENCY	DISTRIBUTION	AWARENESS	ACCESS	RECEIVING CARE	POST-CARE
<p>Limited financial autonomy and budgetary constraints of state agencies has led to inadequate financing of supply chain commodities and operations</p> <p>Lack of quantification of commodity requirements particularly by donors, result in expiries and stockouts at facilities</p>	<p><b>Inadequate cold chain infrastructure and storage results in poor quality and availability of commodities</b></p> <p>Lack of skilled manpower and inadequate funding for LMCU activities impede their ability to adequately supervise and coordinate logistic activities in the state</p> <p>There is no funding for commodity distribution from central medical store. Places a burden on LGAs and health facilities</p>	<p>The Ward Development Committee has far reaching influence within the community and connects facilities with end users</p>	<p><b>The willingness of end users to access and consume MNCH commodities and services is influenced by a combination of their traditional beliefs and family structures</b></p> <p>The community has created channels for sustainability by leveraging traditional and religious leaders to change mindsets</p> <p><b>Lack of convenient means of transportation to the health facility affects mothers' ability to access care</b></p> <p>The experiences mothers have at the health facility are influenced by the staff availability and hours of operation</p>	<p>Private care is better in terms of shorter waiting times, access to drugs and receiving exemplary care</p> <p>The cost implication of MNCH commodities is sometimes unclear and/or a burden to the end user</p> <p>Health workers have poor attitudes that lead to unpleasant experiences for the end users of MNCH services</p>	<p>Patients come to the health facilities late, often ultimately incurring higher costs, after first trying traditional remedies</p>
				<p>Universal insight across 3 states </p> <p><b>Shared Insight across 2 states</b></p>	



# CO-RESEARCH OUTPUT: OPPORTUNITY AREAS

6 opportunity areas framed as “how might we” statements were identified for idea generation and solution development

## Availability

### How might we....

1 ... Improve the governance framework for managing and coordinating supply chain activities while ensuring that projects are sustainable?

- Financing
- Transparency/Visibility
- Communication
- Coordination between community, state and donors
- Accountability

2 ...Improve storage and distribution infrastructure at all levels from CMS to facility to inspire confidence in MNCH commodity supplies?

- Donors not bypassing central storage
- Improving cold chain
- LGA storage/LMCU
- Transit in cold chain
- Funding for commodity transportation

3 ...Improve data management systems to better quantify and distribute MNCH commodities?

- Collection
- Reporting
- Use

6 ...Increase private sector involvement in provision of MNCH services and commodities?

## Usage

### How might we....

4 ...Leverage and incorporate community structures in creating awareness, acceptance and provision of MNCH commodities and services among mothers and children under 5?

- Transportation
- Religious influence
- Family structure
- Increased ownership of decisions by women

5 ...Make a health facility a place of consistent care experience for mothers and children under 5?

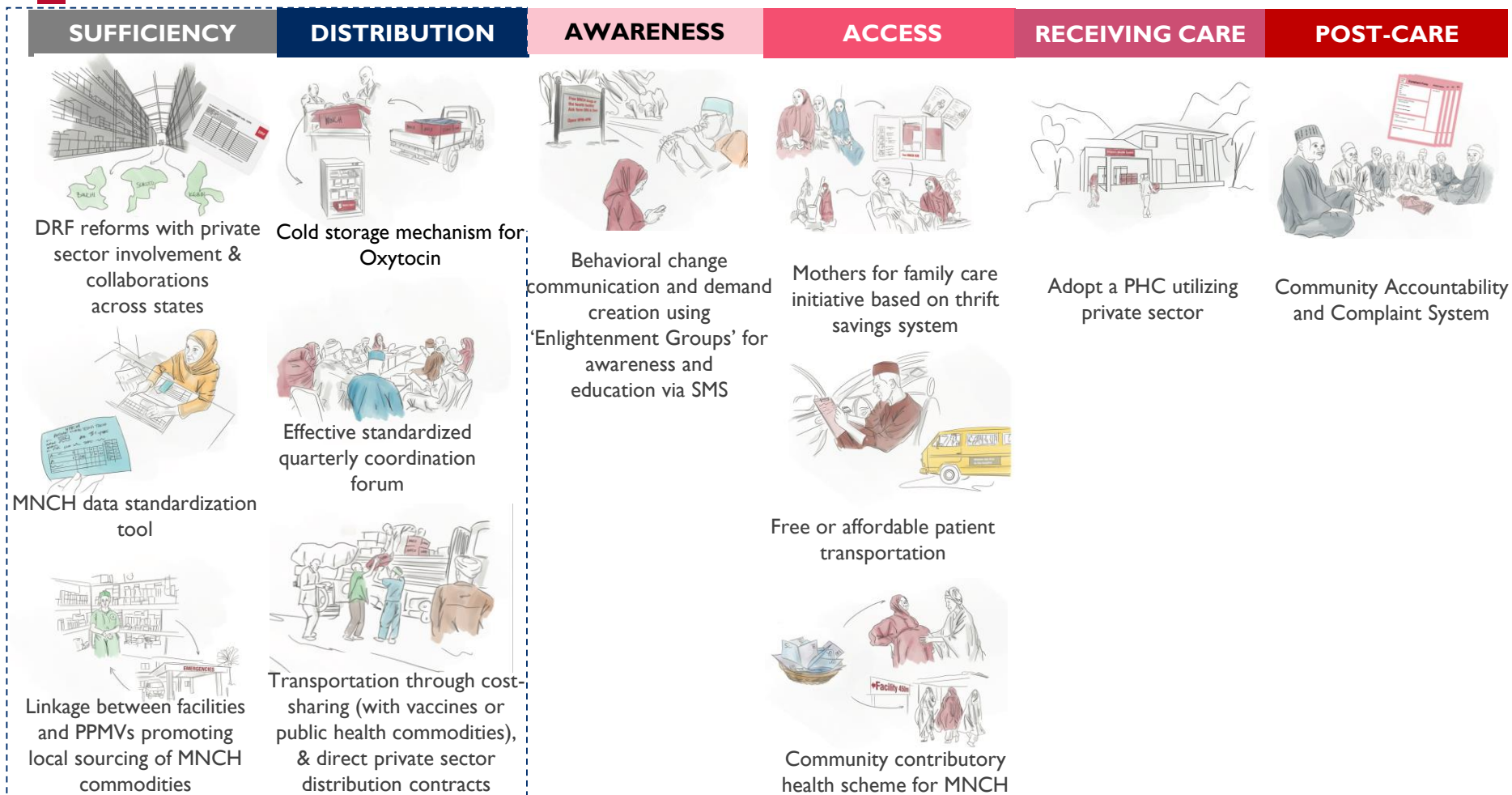
- Trust
- Reliability
- Affordability
- Empathy
- Processes standardization

*\*This opportunity area was deprioritized because it was considered out of scope by the client*

# CO-DESIGN OUTPUT: CONCEPTS

From a long list of 12 user generated ideas, 6 concepts addressing commodity availability were prioritized for detailed implementation planning

 Focus area



# Summary of outcomes

- Results clearly demonstrate the effectiveness of the HCD approach in identifying challenges and unique user-centric solutions to improve commodity availability and access from the users' perspective.
- Stakeholders across the three states developed implementation plans with potential solutions specific to each state.
- Although states have different nuances, solutions are largely cross-cutting and proposed activities hold potential for improving the availability and access to MNCH commodities within Bauchi, Kebbi and Sokoto States. This will contribute to the sustainability of the MNCH supply chain in these states and if successful, can be scalable across other states in Nigeria.

## What were the benefits from this process?

- **Deeper insights into nuances and underlying behaviors** and reasons for identified MNCH supply chain and utilization challenges
- **New ways of doing old things** that take into account user-specific challenges and thus generate better results
- Identification of a **full suite of interventions** that address both supply and demand side challenges
- **Stakeholders' excitement and pledged commitment** to support and implement solution



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