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USAID GLOBAL HEALTH SUPPLY CHAIN PROGRAM
Procurement and Supply Management

MARCH 2019

TECHNICAL BRIEF

User-Centric Solutions Foster Buy-In For Improving Maternal And Child Health In Nigeria

Why Bauchi, Kebbi And Sokoto States Implemented Human Centered Design To Improve Health Outcomes

Background

Mothers in Nigeria face many risks during pregnancy and in the early stages of their children's lives. In 2013, Nigeria reported a maternal mortality rate of 576 out of 100,000 live births. The country also reported an infant mortality rate of 69 out of 1,000 live births and a neonatal mortality rate of 37 out of 1,000 pregnancies[1].

Mother in Kano, Nigeria, receives medicine and information. *Photo Credit: GHSC-PSM / Anthony Abu*

To better serve mothers and their children, Nigeria has targeted certain high-need communities to assess challenges, reduce barriers and improve maternal, newborn and child health (MNCH) outcomes. Supply chain challenges often hinder the availability of critical commodities that support MNCH programs. This includes stockouts of lifesaving medicines such as oxytocin[2] and the inaccessibility of facilities that distribute these commodities. These challenges are a result of tangible issues such as poor transportation networks and infrastructure, but also a lack of information-sharing and adequate training for staff who oversee the various steps in the supply chain as the commodities make their way to health centers and distribution sites across the country.

In May 2018, the Nigerian government partnered with the USAID Global Health Supply Chain Program-Procurement and Supply Management (GHSC-PSM) project to rethink the methods historically used for designing and implementing solutions for the MNCH supply chain in Nigeria. They decided to implement a new approach for tackling these problems—through Human Centered Design (HCD). Past supply chain projects in the country have used a top-down approach that often comes with pre-conceived challenges, externally developed solutions and standardized, static implementation plans. HCD represents a critical departure from the previous approach which, over the years, had not shown significant or sustainable gains. With the help of GHSC-PSM, Nigeria piloted the new HCD approach in three high-need states, Bauchi, Kebbi, and Sokoto. Key stakeholders were engaged in each of these states to understand their challenges in greater depth and from a more user-centric perspective. The approach also prioritized the co-creation of solutions with these stakeholders.

[1] Taken from the 2013 Nigeria Demographic and Health Survey, 2014.
[2] Oxytocin is an MNCH commodity that is administered to mothers with postpartum hemorrhages.

What is 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 alternative cooking sources in impoverished communities, and to improve workflow processes. The HCD pilot in Nigeria focused on developing a user-centric understanding of the MNCH system and co-creating solutions with users to ensure sustainable supply chain management for essential MNCH commodities in the three pilot states, ultimately improving commodity availability and usage.

As GHSC-PSM began to design the HCD pilot with the Nigerian government, the project applied five fundamental principles for engagement:

1. **Inclusiveness** of all relevant stakeholders
2. Pervasive **on-the-ground presence** in communities across the three states
3. **Design thinking**, which includes techniques like visual stimuli, concept sketches and prototypes while designing and refining interventions
4. **Pragmatism**, encouraging interventions that can be implemented within 12 months and are sustainable
5. **Cultural sensitivity** across the wide range of stakeholder groups and communities

Piloting HCD in Nigeria

More than 400 stakeholders were engaged across the three pilot states to define the areas of need and develop solutions. These stakeholders included state leadership; local government leadership and operations staff; health facilities staff; key community members, leaders and influencers; development partners; private sector representatives; and the targeted end-users, mothers and children. During the first phases of the approach, **Co-research** and **Co-design**, the nuanced issues of each state were identified and discussed, defined, and clustered based on patterns that emerged in the conversations. The clusters were used to identify basic categories that the issues fell under, called "opportunity areas." These provide a good sense of what cross-cutting problems were found in the three states and became the focus of more in-depth workshops to identify solutions.

Participants in an ideation workshop during the co-design phase of the HCD pilot. *Photo Credit: GHSC-PSM*

The ideation workshops that followed used interactive sessions and creative exercises, such as mapping stakeholder interactions from the state down to community levels, to brainstorm and refine solutions. Facilitators led discussions with "how might we" statements to address the broad issues that were identified earlier in the process, such as "how might we improve storage and distribution infrastructure at all levels to inspire confidence in MNCH commodity supplies," or "how might we

address cultural issues that discourage women from accessing MNCH commodities?" During the final phase of the approach, **Co-refinement**, high-level stakeholders and decision makers tested and prioritized solutions based on their feasibility and potential to improve the availability of and access to MNCH commodities in each of the three states.

Results

Each step of the HCD approach captured valuable insights into the needs of the participating stakeholder groups within the MNCH landscape in Nigeria. As previously mentioned, before stakeholders began designing and refining solutions, findings from the initial phases of the process were used to identify opportunity areas that any effective MNCH supply chain intervention would need to address. These broad categories, listed and defined below, were then used to guide state workplan development.

Opportunity areas

- Sufficiency: reducing stockouts of essential MNCH commodities
- Distribution: effective and coordinated transportation and storage of commodities
- Awareness: improving communication to and education for at-risk mothers
- Access: assessing and addressing how, when and why mothers cannot or do not access and consume MNCH commodities and services
- Receiving Care: reducing burdens such as cost for mothers and improving quality of care
- Post-Care: addressing cultural and context-specific issues that prevent timely follow-up care

The discussions also revealed that one issue permeated communities throughout each of the three states and would be critical for state workplans to address: the **lack of clear data management systems which leads to poor supply chain visibility and decision-making**.

During the **Co-refinement** stage of the approach, brainstormed solutions were tested and prioritized. The solutions that were designated as supply chain priorities for state workplans (implementation plans) can be found in the table below, along with the corresponding opportunity area they address.

Priority Solution for Implementation Plans	Area Addressed
Develop an MNCH data standardization tool	Sufficiency
Initiate reforms to Nigeria's drug revolving fund (DRF) system by engaging the private sector	Sufficiency
Implement an effective cold storage mechanism for oxytocin	Distribution
Connect facilities with Patent and Proprietary Medicine Vendors (PPMVs) to promote local sourcing of MNCH commodities	Sufficiency

Priority Solution for Implementation Plans	Area Addressed
Improve commodity transportation through cost-sharing and direct private-sector distribution contracts	Distribution
Hold effective, standardized coordination meetings and/or forums on a quarterly basis	Sufficiency, Distribution and Access

Once each of the stages of the HCD pilot were completed, Nigeria's Bauchi, Kebbi and Sokoto states had each developed a detailed implementation plan that not only *considered* the needs of and issues faced by mothers and children (the end-user) in their particular states, but a plan that was the result of soliciting and truly incorporating the experiences, thoughts and ideas of these end-users and many other relevant MNCH supply chain stakeholders.

Outcomes

Through the HCD pilot, Nigeria gained deeper insights into ***the what*** and ***the why*** of its MNCH supply chain utilization challenges. The process revealed nuanced issues specific to certain populations and communities within its borders and the underlying behaviors and reasons behind the challenges they identified. The pilot also encouraged stakeholders to think through new and innovative solutions that take into account these user-specific challenges and needs, thus generating better results than previous approaches that did not involve stakeholders to this extent. The process yielded a full suite of interventions that address both supply and demand challenges for MNCH commodities and by engaging stakeholders so extensively, it got them excited about the implementation of their ideas and led to their pledged commitment to support and implement the workplans that were generated.

The HCD approach elevated the voices of a wide range of stakeholders throughout the process, fostering buy-in from the necessary actors and sustainability of the MNCH supply chain in these states. The highly documented, iterative nature of the approach is also expected to lend itself to effective scale-up in additional states.

Conclusions

The pilot in Nigeria yielded clear results such as state workplans and demonstrated buy-in from MNCH supply chain actors and end-users. These show how effectively the HCD approach identifies challenges and unique user-centric solutions to improve commodity availability and access.

The Nigerian government also found that although the participating states, Bauchi, Kebbi and Sokoto, have obvious nuances and unique challenges, the solutions that were identified are largely cross-cutting and most will be implemented across all three states. The workplans' proposed activities will contribute to the sustainability of the MNCH supply chain in these states and, if successful, will be scalable across other states in Nigeria.