

Driving Digital Excellence to Optimize Newborn Feeding in Kenya and Beyond



Philips
Foundation



Every minute counts in monitoring feeding and lactation support for mothers to troubleshoot issues in real-time and provide enhanced support to establish a strong maternal milk supply and newborn feeding foundation.



Photo: Mothers Milk Bank, Austin, Texas

Problem

2.5 million newborns die each year in the first month of life, most in low- and middle-income countries.

Innovations to improve care including optimal feeding during this critical period are urgently needed to meet Sustainable Development Goal 3.2 to reduce neonatal morbidity and mortality.

Small and sick newborns and their mothers face unique challenges for optimal newborn nutrition, requiring enhanced lactation and feeding support

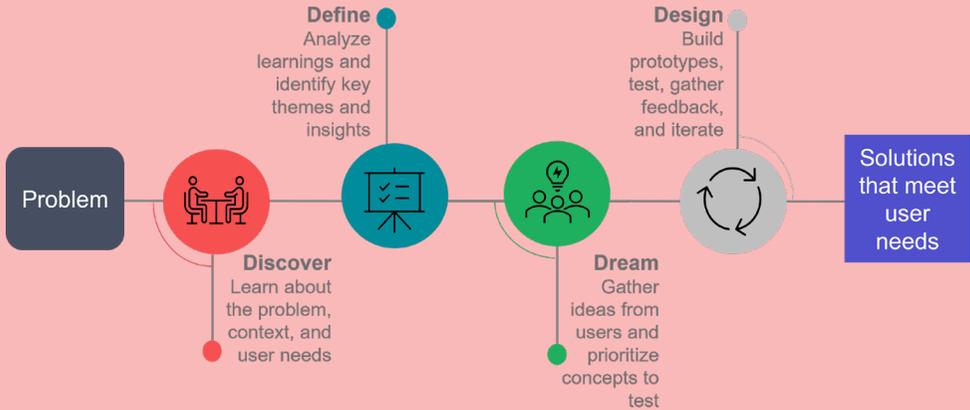
Globally, inpatient newborns may not receive optimal nutrition, including mother's own milk or donor human milk from a human milk bank; if they do, it may be too late or insufficient. Known interventions, including optimal lactation support, prevention of separation, and human milk bank services to safely provide only essential donor milk, can provide all newborns with an exclusive human milk diet.

- Less than half of all newborns are put to the breast within the first hour after birth
- Small and sick newborns who need intensive care may be separated from their mothers, sometimes impeding feeding of mother's own milk even when mothers and newborns are admitted to the same hospital.
- Newborns may not have access to their mother's milk to immediately meet their nutritional needs, and mother's lactation supply may be impacted due to stress.

Current data systems are lacking around the world to track how newborns are fed, how mothers are supported to establish their lactation, and how human milk banks can provide safe and quality donor human milk to infants who lack their mothers' milk. Data improvements are needed to enhance decision making for optimal newborn feeding.

PATH works with global and local policy leaders to advocate and implement a comprehensive approach to strengthening systems for optimizing human milk feeding for vulnerable small and sick newborns. This includes strengthening data systems as a critical foundation for monitoring and decision-making, together with enhancing skilled, specialized lactation support, making available donor human milk from an integrated human milk bank, and aligning with Kangaroo Mother Care.

PATH Living Labs 4D Process



Photo, PATH/Living Labs

The Living Labs Approach

RESEARCH QUESTION

How might we develop a system that will actively track and measure practices and outcomes, troubleshoot challenges and provide real-time guidance to optimize support for feeding and avoid dangerous delays or lack of provision of human milk?

DISCOVER

Understanding the needs of the users, the problem and context is vital. In order to do this, we conducted observations at the facility and held group workshops and in-depth interviews with key stakeholders (including neonatologists, nurses, nutritionists, and other clinical staff, as well as administrative staff) at Pumwani Maternity Hospital.

DEFINE

During the define phase, we analyzed the data to draw key learnings and identified key insights and themes that would inform the design.

DREAM

We explored process flows and outlined a product vision which we aligned with stakeholders from Pumwani Maternity Hospital.

DESIGN

We developed low-fidelity and high-fidelity prototypes which were tested with key users and stakeholders.

DEVELOP

Through collaboration with IntelliSOFT Consulting, we developed a reference application guided by World Health Organization Standards-Based, Machine readable, Adaptive requirements-based and Testable (SMART) guideline in conjunction with the Principles for Digital Development.

Solution

PATH Living Labs in collaboration with stakeholders from Pumwani Maternity Hospital and support from Phillips Foundation developed a Newborn Nutrition Digital Adaptation Kit to provide data-informed guidance for improved practice to optimize critical feeding and save newborn lives.

This will increase and streamline data collected to optimize impactful decision-making in practice and provide real-time feedback to rapidly address issues and adapt practices based on results.

