Improving data for decision making to enhance lactation support and use of human milk

PATH

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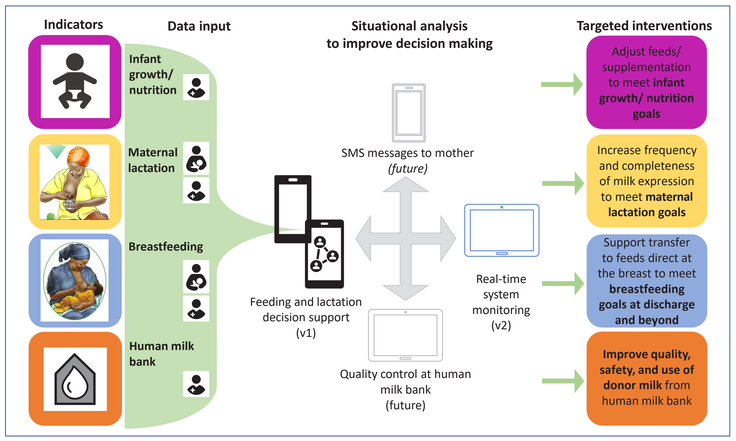
Introduction

The increase in child mortality rates across the globe highlights the need for research on the underlying issues and generate long term solutions to reduce loss of young lives. Every year, 2.5 million newborns die in their first month of life, with most of these deaths occurring in low- and middle-income countries. To reduce neonatal morbidity and mortality and meet Sustainable Development Goal 3.2, innovations are urgently needed to improve care, including optimal feeding during this critical period. Despite known interventions, inpatient newborns may not receive optimal nutrition, including the mother's own milk or donor milk from a human milk bank.

Objectives

Current data systems are lacking 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 milk to infants who lack their mothers' milk. This user-centered activity investigates the possibility of cocreating a system that tracks and measures the feeding of infants to identify anomalies. A proactive monitoring and measuring approach will help in identifying struggling infants and using alternative means to provide sustenance and reduce child mortality rates.



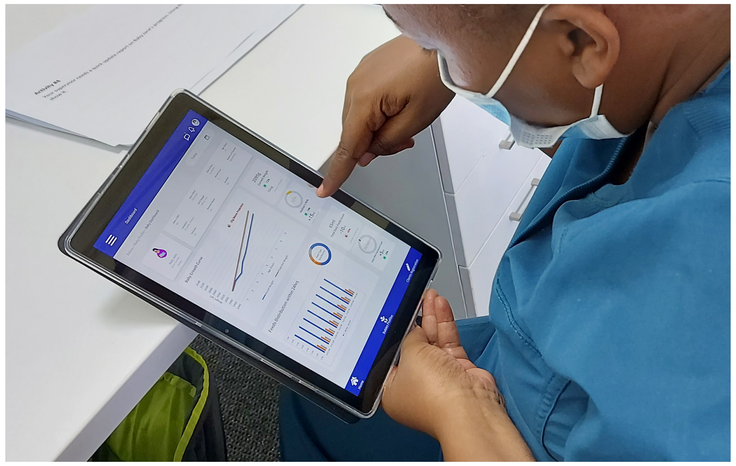
Opportunities considered in the development of the Newborn Nutrition Digital Adaptation Kit (NNDAK)

Approach

By incorporating use of the human centered design (HCD) approach we managed to: first, identify the right problem to focus on; second, co-design with key stakeholders (Pumwani Maternity Hospital and Preemie Love Foundation); third, integrate the workflows with clinical and hospital workflows; and lastly, evaluate and test the system with key stakeholders.

Issues

We cocreated and codeveloped a digital solution to address inpatient clinical decision making for support of maternal lactation and newborn nutrition, called the Newborn Nutrition Digital Adaptation Kit (NNDAK). The NNDAK has been designed within the Digital Adaptation Kit architectures recommended by the World Health Organization (WHO) globally recognized guidelines, including the WHO-UNICEF Baby Friendly Hospital Initiative for small, sick and preterm newborns and the Kenya Comprehensive Newborn Care Protocols.



A neonatologist based in Kenyatta National Hospital tested the solution during a usability and acceptability testing session in the Living Labs space. The participant performed a defined set of tasks as the facilitator observed their interaction and navigation with the NNDAK.

Conclusion

The NNDAK is now ready for piloting for eventual use by up to 150 health care workers to support the feeding of approximately 36,000 newborns per year. The application is open source and anticipated to scale up to neonatal units across the globe.

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