



Photo: World Vision/Joanith Asiimire

Uganda

Buikwe Maternal Newborn and Child Health Project

5

digital tools deployed since **December 2020***



In **Hand over or complete** project stage†

100% complete overall

57,858 beneficiaries reached

81% children ages 0–18

19% adult females

Demonstrating the power of digital health to enhance positive outcomes

The Buikwe Maternal Newborn and Child Health (B-MNCH) project, which concluded in September 2021, aimed to improve the quality and utilisation of maternal, newborn and child health services in the Buikwe district of central Uganda. To achieve this, World Vision Uganda’s B-MNCH team used a combination of several evidence-based approaches including behaviour change communication, social accountability and health system strengthening. Operational since December 2020, the digital health component of B-MNCH supported community health workers (CHWs) linked with 18 health facilities to counsel pregnant and lactating mothers during home visits.

The B-MNCH team trained CHWs to use smartphones equipped with a tailored [CommCare](#) app. The digital tool guided CHWs to encourage their clients to begin appropriate home-based preventive care and utilise health care services when indicated. The app also enabled CHWs to capture basic health status information about the women and children they serve and automatically share it with Uganda’s [DHIS2](#) a health information system used routinely by local

government health authorities and health facility teams. This interoperability feature of the CommCare app with DHIS2 strengthened the overall project because it enabled robust data utilisation by multiple stakeholders.

A final evaluation of the B-MNCH project was conducted as it approached its conclusion in September 2021, some 10 months following deployment of the digital component. The evaluation findings suggest that the project’s digital health component may have contributed to positive health outcomes in women and young children that were prioritised by the B-MNCH team (see table below). These results are encouraging when considering the prospects for digital health approaches to magnify outcomes in future projects.

B-MNCH Key Outcomes

An evaluation led by World Vision Uganda documented positive changes in a three-year period across several maternal and child health indicators.

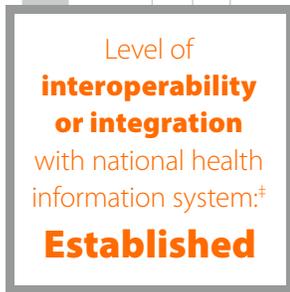
Key Outcome	Baseline (2019)*	Endline (2021)**	Change***
Obtained 4th antenatal care visit	43.5%	64.3%	↑ 20.8%
Facility-based delivery	79.0%	91.8%	↑ 12.8%
Delivery by a skilled birth attendant	84.2%	90.3%	↑ 6.1%
Timely postnatal care (<48 hrs)	32.9%	54.7%	↑ 21.8%
Child (12–23 months old) fully immunised	77.0%	81.8%	↑ 4.8%

* 2019 sample size: 438 pregnant women caregivers of children 0–23 months old.

** 2021 sample size: 453 pregnant women caregivers of children 0–23 months old.

*** All changes are percentage point differences and are statistically significant with a p-value below 0.5.

NOTE: The B-MNCH project was launched in July 2019 but the digital component was launched in December 2020.



WHO HEALTH SYSTEM CHALLENGES^{††} ADDRESSED

Information	Availability	Quality	Acceptability
<ul style="list-style-type: none"> ▪ Delayed reporting of events ▪ Insufficient utilisation of data and information ▪ Lack of access to information or data ▪ Lack of quality/reliable data 	<ul style="list-style-type: none"> ▪ Insufficient supply of commodities 	<ul style="list-style-type: none"> ▪ Poor adherence to guidelines 	<ul style="list-style-type: none"> ▪ Not applicable
Utilisation	Efficiency	Cost	Accountability
<ul style="list-style-type: none"> ▪ Loss to follow-up ▪ Low demand for services 	<ul style="list-style-type: none"> ▪ Delayed provision of care ▪ Lack of or inappropriate referrals 	<ul style="list-style-type: none"> ▪ High cost of manual processes 	<ul style="list-style-type: none"> ▪ Inadequate understanding of beneficiary populations ▪ Insufficient patient engagement

WHO DIGITAL HEALTH INTERVENTIONS^{††} USED

Clients	Healthcare providers	Health system managers	Data services
<ul style="list-style-type: none"> ▪ Not applicable 	<ul style="list-style-type: none"> ▪ 2.3 Healthcare provider decision support ▪ 2.5 Healthcare provider communication ▪ 2.7 Health worker activity planning and scheduling ▪ 2.9 Prescription and medication management 	<ul style="list-style-type: none"> ▪ 3.3 Public health event notification 	<ul style="list-style-type: none"> ▪ 4.1 Data collection, management, and use ▪ 4.4 Data exchange and interoperability

WHO HEALTH FOCUS AREAS[†]

- Adolescent and youth health
- Civil registration and vital statistics
- Cross cutting
- Infectious diseases (non-vector borne)
- Maternal health
- Newborn and child health
- Nutrition and metabolic disorders
- Sexual and reproductive health
- Water, sanitation and hygiene (WASH)

MOBILE NETWORK OPERATORS

- [Airtel](#)
- [MTN](#)

STAKEHOLDERS

DOMESTIC GOVERNMENT PARTNERS

- [Ministry of Health](#)
- Buikwe District local government

WORLD VISION PARTNER

- [World Vision Hong Kong](#)

PROJECT MODELS AND APPROACHES^{††} USED

CORE

- [Community Health Workers](#) (CHW)

ADDITIONAL

- Baby-friendly Hospital Initiative (BFHI)
- [Care Groups](#)
- Emergency Newborn and Obstetric Care
- [WASH in Health Care Facilities](#)

ENABLING

- [Citizen Voice and Action](#) (CVA)

FUNDING PARTNER

- [World Vision Hong Kong](#)

PROJECT CONTACTS

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DIGITAL TOOLS AND TECHNOLOGY PARTNERS

DIGITAL TOOLS

- [CommCare](#)
- [District Health Information Software 2](#) (DHIS2)
- [KoBoToolbox](#)
- [Open Data Kit](#) (ODK)
- [Power BI](#)

^{*}All information refers to the period October 2020–September 2021.

[†]World Health Organization (WHO) project stages and health focus areas are taken from the WHO [Digital Health Atlas](#).

[‡]The integration/interoperability categories are taken from the [Health Information Systems Interoperability Maturity Toolkit: Model](#).

[§]Star ratings range from 1: Not yet considered to 5: Intended and designed for scale-up.

^{||}Strategic imperatives are key elements of World Vision's [Our Promise strategy](#).

^{††}WHO health system challenge categories and digital health intervention categories are taken from the WHO [Classification of Digital Health Interventions](#).

^{†††}These classifications have been defined organisation-wide by World Vision.



For more information: <https://www.wvi.org/digital-health>