Uganda
Buikwe Maternal Newborn and Child Health Project

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.

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

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

* 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 0.05.

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

PROJECT MODELS AND APPROACHES

- Community Health Workers (CHW)
- Baby-friendly Hospital Initiative (BFHI)
- Care Groups
- Emergency Newborn and Obstetric Care
- WASH in Health Care Facilities
- Citizen Voice and Action (CVA)

WHO DIGITAL HEALTH INTERVENTIONS

Information
- Delayed reporting of events
- Insufficient supply of commodities
- Poor adherence to guidelines

Availability
- Insufficient utilisation of data and information
- Lack of access to information or data
- Lack of quality/reliable data

Quality
- Loss to follow-up
- Delayed provision of care
- High cost of manual processes
- Inadequate understanding of beneficiary populations
- Not applicable

Acceptability
- Low demand for services
- Lack of or inappropriate referrals

Utilisation
- Not applicable
- 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

Utilisation
- 3.3 Public health event notification
- 4.1 Data collection, management, and use
- 4.4 Data exchange and interoperability

Efficiency
- Loss to follow-up
- Delayed provision of care

Cost
- High cost of manual processes
- Inadequate understanding of beneficiary populations
- Not applicable

Accountability
- Low demand for services
- Lack of or inappropriate referrals

WHO HEALTH SYSTEM CHALLENGES

- Information Availability Quality Acceptability
  - Delayed reporting of events
  - Insufficient supply of commodities
  - Poor adherence to guidelines

- Utilisation
efficiency
cost

- Acceptability

Utilisation
- Loss to follow-up
- Low demand for services

WHO DIGITAL HEALTH INTERVENTIONS

- Information
- Availability
- Quality
- Acceptability

- Utilisation
- Efficiency
- Cost
- Accountability

- Clients
- Healthcare providers
- Health system managers
- Data services

- 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

- 3.3 Public health event notification
- 4.1 Data collection, management, and use
- 4.4 Data exchange and interoperability

- Not applicable

- Airtel
- MTN

STAKEHOLDERS

DOMESTIC GOVERNMENT PARTNERS
- Ministry of Health
- Buikwe District local government

WORLD VISION PARTNER
- World Vision Hong Kong

FUNDING PARTNER
- World Vision Hong Kong

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MOBILE NETWORK OPERATORS

Airtel
MTN

465 digital tool users
96% community health workers
4% other health workers

Level of interoperability or integration with national health information system: Established

96% self-rating of scale-up intention

Strategic imperative: Deepen our commitment to the most vulnerable girls and boys

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

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