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DIGITAL HEALTH TO SUPPORT PRIMARY HEALTH CARE IN EMERGENCIES AND HUMANITARIAN SETTINGS

BACKGROUND

Achieving the Sustainable Development Goal (SDG) health targets, including those of SDG 3, "good health and well-being", requires transformational thinking and action. In fragile, conflict and violence-affected (FCV) contexts, including famine, drought and insecurity, strengthening primary health care is critical to the provision of tailored essential packages of interventions. For those who are poor or vulnerable, or at particular risk such as children on the move or displaced by conflict, access to health services that are designed to meet specific needs are essential to a child's development. Geography, clan hierarchy, livelihood vulnerability, internal displacement, gender, exposure to shocks and conflict-related stresses have resulted in communities with varying access to affordable health services in FCV regions, variation in community exposure to health promotion, and gross variation in local health authorities' capacity to provide care.

The threat to children's survival in FCV contexts continues to be vaccine-preventable diseases (VPD) and the major five common childhood illnesses: diarrhoea, pneumonia, malaria, malnutrition and new-born conditions (prematurity, sepsis and birth asphyxia). However, weaknesses in governance and limited basic building blocks for health systems undermine efforts to provide and increase demand for basic services. Therefore, building the resilience of mothers, caregivers and their communities to promote health-seeking behaviour and increase demand for services will strengthen health systems. Developing health authorities' institutional and managerial capacity, and health system components that help managers lead and manage a country's health services is also essential.

Today, innovative service-delivery models and digital solutions are being used, even in low-bandwidth settings, to deliver quality healthcare and contribute to more resilient health systems in FCV regions.

DIGITAL HEALTH FOR PRIMARY HEALTH CARE IN HUMANITARIAN SETTINGS

In communities that are difficult to reach and in FCV regions, rapid digitalization includes device penetration and mobile-messaging usage in households and advancements in mobile technology and diagnostics. Innovative technology is revolutionizing community health worker (CHW) programmes. A proliferation of private-sector models, including franchises, is creating new opportunities to reimagine primary health care in emergency and fragile contexts. For example, the Amana project in Mauritania is a digital health initiative that uses a smartphone application for improved recognition and management of children with malnutrition. In Chad, an electronic system using the Ona platform was tested to follow-up immunization

of children younger than one year. And in Pakistan, the Nighedaasht mobile app has been piloted to improve the quality, coverage and access to maternal, new-born and child health services, strengthening referral systems and improving communication between community midwives and obstetricians.

Digital health projects

However, implementation of such digital health projects are often time-bound, one-off operations with specific deliverables and end-points that are not necessarily invested in or implemented by governments. Digital health projects may eventually become government-sponsored investments or contribute to important findings.

Examples of Digital Health Projects

In Mozambique, the upSCALE platform[1], which is now an integral part of the national community health worker strategy, supports CHWs to diagnose and treat sick children in the community using a mobile phone system for decision support and stock management.

In Rwanda, using the Babyl digital service provider[2], over two million registered individuals can reach a doctor by phone and then pick up prescribed medications at private, local pharmacies using an electronic voucher.

In Malawi, individuals receive mobile messages from a free national hotline, and at a "health centre by phone,"[3] can query health workers who provide counselling for behavioural change and self-care.

Digital health investments

Digital health investments are deliberate and planned government-supported initiatives for health programmes, and are designed to integrate within other national digital activities to become institutional practices. Several recent opportunities can be leveraged for countries to leapfrog from a context with multiple digital health projects to a more solid digital health investment plan:

- The increased coordination of developers guided by the Principles for Digital Development[4] and the creation of Global Goods, which are digital health tools that are interoperable and adaptable to different countries and contexts, will promote digital health interventions that are designed, used and funded to scale nationally, and that can be used in multiple countries so as to have cost-savings and collaborations between them.
- New opportunities for sustainable financing and donor alignment for digital health investments have arisen, not only through the increase in donor alignment through the Digital Investment Principles,[5] but also through financing mechanisms such as the Global Financing Facility (GFF), growing recognition of the importance of digital health among large donors such as Gavi, the Vaccine Alliance, and the Global Fund.
- Readiness-assessment tools and technical guidance on how to successfully build digital health systems in low- and middle-income countries are available from the World Health Organization (WHO), UNICEF and others.

All these initiatives are near-term mechanisms to advance sustainable models of digitally enabled primary health care (PHC) delivery for women and children.

Four priority areas for digital health investments have emerged based on the needs and challenges of FCV contexts, the availability of national exemplars, evidence-based service-delivery mechanisms, private sector innovations, global good digital health solutions, and country demand:

1. **At the household level:** Facilitate behaviour change at scale by leveraging patient empowerment and self-management, conditional cash transfers, as well as care seeking by leapfrogging fixed facilities (when these are unavailable or inaccessible) through CHWs, telemedicine, conversational agents (chatbots) and facilitated self-service.

2. **At the community level:** Support government CHWs and other frontline health providers and pharmacies in a way that improves access, quality and efficiency.

3. **At the population level:** Use multiple sources of data and user-friendly dashboard visualizations, including data from patient feedback systems, routine standard indicators and one-off assessments, to enable the district/regional health planners with timely and relevant information, better targeting and feedback.

4. **At the system level:** Invest in digital health building blocks (e.g. information systems, logistics, standards, governance) to enable stronger digital ecosystems and effective scale-up of digital health investments.

An important aspect of developing programmes in humanitarian settings is the inclusion of an implementation research (IR) component to identify programmatic challenges and possible solutions, and use this information to both optimize the development of the project as it happens, as well as to apply these lessons learned in the planning and development of related programmes elsewhere.

UNICEF'S RESPONSE

The UNICEF digital response for PHC in emergencies comprises an array of interventions and collaborative efforts in line with community health and PHC plans. The response encompasses activities, including:

- Implementation of digital platforms for continuous training of CHWs;
- Development of comprehensive digital health strategies for community health care and PHC;
- Digital two-way messaging platforms for targeted client communication;
- Tele-medicine solutions for client-to-provider and provider-to-provider interactions;
- Community health information systems and tools to support health workers in the patient consultation and in conducting longitudinal follow-up, while generating data for the health management information system;
- Support to data dashboards and visualization;
- Coordination with partners and governments to support policies on the integration of digital health platforms with PHC plans; and
- Systems and platforms that can track logistics and supplies.

THE COVID-19 CONTEXT

Digital health interventions have demonstrated direct value for health emergencies, specifically during the COVID-19 pandemic: they have been deployed and scaled for real-time surveillance and contact tracing, data collection, remote health worker training/motivation, social science data collection, risk communication and community engagement (RCCE), and demand generation. In West Africa, remote health worker training sessions on COVID-19 and its impact on essential services were delivered in Togo via Telegram, in DRC via Moodle and in Liberia via SMS. UNICEF also strengthened risk communication and community engagement by disseminating COVID-19 reliable facts via Rapidpro two-messaging platforms, enabled by WhatsApp and Facebook messenger, including a customized Health buddy application for the Europe and Central Asia region. Today, UNICEF continues to facilitate a demand-driven digital health approach that identifies and aligns robust, ready-to-scale technologies that address the COVID-19 negative impact on the continued delivery of Primary Health Care interventions including the transition to deploy and deliver COVID-19 vaccines to the last mile.

UNICEF works in more than 40 countries/geographical areas[6] considered as emergency or fragile contexts, focusing its digital agenda on: Afghanistan, Burkina Faso, Central African Republic, Chad, Democratic Republic of Congo, Cote D'Ivoire, Ethiopia, Haiti, Kenya, Liberia, Malawi, Mali, Mozambique, Niger, Uganda, Syria, Yemen and Zambia.

1 Malaria consortium, 'UpScale', <https://www.malariaconsortium.org/upscale/pages/about-upscale>, accessed 15 March 2021.
2 babyl, 'Welcome to babyl', <https://www.babyl.rw/>, accessed 15 March 2021.
3 Village Reach, 'Chipatala cha pa Foni (CCPF) - A Lifeline for Family Health', <https://www.villagereach.org/impact/ccpf/>, accessed 15 March 2021.
4 Principles for Digital Development, <https://digitalprinciples.org/>, accessed 15 March 2021.
5 Digital Investment Principles, 'The principles of Donor Alignment for Digital Health', <https://digitalinvestmentprinciples.org/>, accessed 15 march 2021.
6 UNICEF, 'UNICEF Humanitarian Action for Children 2021', <https://www.unicef.org/media/88416/file/HAC-2021-overview.pdf>, accessed 15 March 2021.

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