Use of RapidPro for remote collection of nutrition data during the COVID-19 pandemic in Zimbabwe

**Background:** Timely and quality nutrition information is required for evidence-based nutrition programming. The COVID-19 pandemic has resulted in travel restrictions put in place to mitigate the spread of the virus hence, continuity of lifesaving interventions for addressing malnutrition including routine data collection and surveillance, has been a challenge. This calls for countries in the Eastern and Southern Africa region and beyond to adapt their nutrition programming approaches and information systems to ensure that they remain functional, while minimizing the transmission risk of COVID-19 as much as possible. With technical and financial support from UNICEF Zimbabwe, the Ministry of Health and Child Care (MoHCC) has achieved this through scaling-up the mobile-phone based RapidPro system to collect high-frequency nutrition data to monitor the nutrition situation across the country.

**Why use RapidPro?**

RapidPro is an open source software that allows the setting up of a workflow logic to collect any kind of data via SMS. The software has features for managing users’ contacts, sending messages in multiple languages and inter-operating with external systems. The RapidPro software can be hosted as a service on a local computer server, or on the cloud. The SMS facility is widely available on all types of phones, hence can reach a wide and diverse audience. RapidPro does not require an active internet connection, making the SMS implementation cost-effective from a business standpoint. RapidPro provides a continuous stream of “living” data that offers unique opportunities to react in real time to changes at the level of implementation.

**Collection of nutrition data using RapidPro**

RapidPro was previously used during the Cyclone Idai response in Zimbabwe and proved to be an effective approach for ensuring availability of timely data. Health Facility staff and Village Health workers (VHWs) were therefore already familiar with the RapidPro process as they had previously been trained in the system. When prompted through messages, VHWs and Health Facility staff send their data via SMS to a short-code on a weekly basis. The system uses reverse billing with no charge to the recipient for sending the messages.

**Box 1: High frequency indicators selected in Zimbabwe for monitoring with RapidPro**

- Number of children (6-59 months) screened
- Number of children with SAM (disaggregated by sex)
- Number of children with MAM (disaggregated by sex)
- Number of children who received Vitamin A (disaggregated by sex)
- Number of children who received MNPs (disaggregated by sex)
- Number of caregivers of children under 2 who were reached with IYCF messages
- Number of sachets of RUTF left in stock

Zimbabwe’s RapidPro system collects data on the number of children admitted for treatment of moderate and severe acute malnutrition, thereby allowing monitoring of trends at facility level and early identification of hotspots. In addition, data is collected on the status of supplies for health facilities to ensure zero stock-out of lifesaving nutrition supplies. Selection of high frequency indicators was based on the potential to provide trend data.
Data flows

RapidPro is not a replacement of the routine information system (DHIS2). It is rather designed to fast track the data flow from frontline workers to the national/central level. VHWs and health facility staff capture data for a selected set of high frequency indicators (Box 1), which they send directly to national level. This process bypasses data analysis and validation at district and provincial levels, thereby allowing data to reach the national level cloud server in near-real time. The tradeoff, however, is that data is received at national level in its raw and uncleaned form. This necessitates having some capacity at national level to clean and analyze the data.

At national level, an M&E officer under the nutrition department of the Ministry of Health and Child Care (MoHCC) and an information management officer at UNICEF are the recipients of the data sent by frontline workers, and they clean the data. Any red flags are directed back to district and provincial levels for validation. The cleaned data is exported to ONA platform for further analysis and visualization.

Results

RapidPro is now operational in 23 out of the 63 districts in Zimbabwe. The system has since collected data for three weeks. Out of the 624 health facilities registered to report using RapidPro during the first week, 83 (13 per cent) reported correctly. Nine additional health facilities were registered to report using RapidPro during the second week, and the reporting rate increased to 35 per cent. During the second week, twenty-eight health facilities reported stockouts of RUTF. In the third week reporting increased to 44%.

At community level, 5,009 and 4,792 village health workers submitted reports using the RapidPro system during the first and second week, respectively.
Lessons learned

1. Mapping of existing systems is an important first step in order to avoid duplication of efforts and identify areas for integration.
2. Government leadership and ownership of the nutrition information systems initiatives is critical, and to facilitate this the RapidPro process should be included into annual activity plans with the relevant line ministry.
3. A systems strengthening approach is key to make sure that the RapidPro strengthens, and does not undermine, the routine reporting system. To ensure this, it is important to engage with the HMIS and monitoring and planning departments in the relevant line ministry, and to ensure that the data feeds into the national system at the national level.
4. Appropriate approaches to capacity building of key cadres at all levels must be adopted to create momentum and support proper functioning. This includes:
   a. Creating the same level of understanding of the system and how it functions across all users through joint orientations (Nutritionists & Health Information Officers) at National, Provincial and District levels to create momentum.
   b. Develop and provide job aids to be used by Nutritionists, Health Information Officers and Village Health Workers.
   c. Provide training and trouble-shooting support for Village Health Workers.

Building on the experience and learning from the use of RapidPro post Cyclone Idai, Zimbabwe has been able to quickly re-start and scale-up use of this reporting platform in the current context of the COVID-19 pandemic and the associated travel restrictions and lockdowns, to ensure the continuity of reporting of nutrition information.

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Tambudzai Vumisai, a Community Health worker supported by Unicef, checks Tinashe Uumisai (4yrs) for signs of malnutrition at her house in Nyahode, Zimbabwe