

# ANALYZING THE LANDSCAPE: SUPPLY CHAIN MOBILE TOOLS FOR COMMUNITY HEALTH WORKERS



Photo credit: GHSC-PSM (Afya Ugavi project)

## BACKGROUND

There are few mobile applications for supply chain management to provide data visibility for community health workers (CHWs) at the last mile. Often, as a cadre of health workers, CHWs are left behind with minimal support and tools to successfully render health services at the community level. This analysis aims to support CHW organizations and their partners to identify appropriate technology solutions for capturing and sharing CHW supply chain data whereby improving product availability at the last mile.

## PURPOSE

This brief provides evidence about systems capabilities, features, and use of mobile applications by CHWs to increase data visibility, access to data for decision making, and improved product availability at the last mile.

## METHODOLOGY

The USAID Global Health Supply Chain Program-Procurement and Supply Management (GHSC-PSM) project collected data to compare and assess existing mobile applications, their systems capabilities, key features, and their effectiveness and appropriateness for CHWs. CHWs can use the mobile applications included in the analysis for logistics management and can operate them in a resource-constrained environment. These applications include: cStock, CommCare Supply, OpenSRP, DHIS2, and Logistimo. GHSC-PSM also identified OpenLMIS, Entution Vesta, and mSupply mobile applications; however, due to lack of applicability at the CHW level, the project did not include these applications in the analysis.



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Analysis CHW Mobile Apps**

GHSC-PSM collected data in two phases. In phase one, the team conducted an Internet search to assess which mobile applications CHWs use. Based on the results, the team carried out additional in-depth interviews to gather more information on how CHWs use the existing systems and capabilities. Application developers validated the data.

## LIMITATIONS

- GHSC-PSM based the data collection on research conducted in October 2021; it is not an exhaustive list of mobile applications used by CHWs.
- U.S.-based project staff conducted user testing, not CHWs; however, CHWs are the intended users of the mobile applications.

## ANALYSIS COMMON FEATURES OF THE APPLICATIONS



### OFFLINE CAPABILITIES



### ANDROID-SUPPORTED PLATFORM



### MODULE FOR CHWs



### OPEN SOURCE



### INTEROPERABLE



### OTHER FEATURES

- ➔ Auto calculates resupply quantities based on logistics data collected
- ➔ Customizable data entry and reporting based on country requirements
- ➔ Web accessible dashboard for viewing reports
- ➔ Built-in data entry and data validation checks which prevent data entry errors
- ➔ Adaptable to country context and languages

## UNIQUE FEATURES OF THE APPLICATIONS

logistimo	eStock	dhis2	CommCare	OPENSRP
Ability to digitize data from paper-based forms.	Developed exclusively for CHWs in Kenya.	Primarily used as a health information management system with end-user logistics management information system functionality.	Collects and links household data to commodity data, creating an accountability feature for total stock and commodities dispensed.	The Open Smart Register Platform (OpenSRP) is a health worker tool which is recognized as a Digital Public Global Good.
Can be easily configured for each level of the supply chain.	Offers four options (direct entry into the app, use of Unstructured Supplementary Service Data (USSD), supervisor enters data on behalf of CHW and takes a picture of paper-based form) to submit commodity data to higher level.	Organizations can download the application and use it without approval from dhis2 and can have full ownership of the application.	Fast Healthcare Interoperability Resources (FHIR) interoperable, making it easy to provide healthcare information to healthcare providers and individuals on a wide variety of devices. FHIR also allows third-party applications to easily integrate into existing systems.	The application focuses on minimizing wastage by providing oversight of supplies available and needed in the field.
Data monitoring at higher level done through Pulse, a web- and mobile-based application.	User-friendly with pictures of every product.	Countries/ organizations configure their own information system on top of the generic platform.	Has mobile and web functionality.	Can sync data between devices in offline mode.
Ability to monitor stock availability using an interactive dashboard.	Built on DHIS2 platform.			Can be used for various functionalities beyond supply chain (e.g., case management), reducing the number of change to reducing the number of applications CHWs need to complete their job responsibilities.
				Can be integrated into any register (for example, antenatal and postnatal care, family planning, or immunization).

## RECOMMENDATIONS

All mobile applications analyzed are capable of providing basic functionalities; country context will dictate the final choice. However, recommendations below are based on specific features each mobile application offers for strengthening supply chain management at the CHW level. Organizations/programs can select a mobile application which is relevant to their programmatic circumstances or operating environment. For example:

- ➔ Those interested in a supply chain mobile application that is **tailored specifically for CHWs** can benefit from using cStock.
- ➔ Countries currently using **DHIS2 as their health management information system** can use DHIS2 for supply chain management as it includes a logistics management information system functionality. DHIS2 is also offered free of charge as a global public good without the developer's awareness or approval. It is fully customizable and can be used either for a single purpose or to triangulate data from several sources in one integrated system.
- ➔ Projects working with **CHWs on case and commodity management** in various health areas can use OpenSRP instead of multiple phones and applications for reporting health data.
- ➔ Organizations interested in using a mobile application for **improving inventory management for various levels of the supply chain** can consider using Logistimo. It focuses on logistics management through the entire supply chain.
- ➔ Projects interested in **linking household data to logistics data** can use CommCare Supply. This is the only mobile application which currently utilizes household data as an accountability measure for commodity distribution at the CHW level.

## SELECT SCREENSHOTS OF VARIOUS MOBILE APPLICATIONS

