

The Role of Digital Technology in the Fight Against COVID19 Pandemic: Ethiopia's Experience

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Digital health interventions can make a difference in times of crisis. In Ethiopia, they provided high-quality information for timely COVID-19 pandemic response decisions and, improved supply chain visibility. Digital health tools also help reach segments of the community with messages about COVID-19 prevention.

Key factors that influenced the rapid development, adoption, and success of Ethiopia's COVID-19 digital response are a coordinated, government-led systems approach, demand for digitalization, adequate resource allocation, and leveraging existing digital health tools.

BACKGROUND

The COVID-19 pandemic exposed critical limitations in the global public health system, including Ethiopia. With a population of almost 120 million, Ethiopia had the highest number of COVID-19 cases in the East Africa region, and the sixth highest in all of Africa. As of July 2022, 489,341 COVID-19 cases had been confirmed, of whom 7,541 (1.54%) died.

Ethiopia's COVID-19 response has been affected by limited testing capacity, inability to capture and report accurate and timely data, lack of awareness of prevention methods, and vaccine supply chain limitations. The USAID Digital Health Activity, implemented by JSI, helped introduce or adapt several digital health innovations to mitigate some of these challenges.

FINDINGS

- More than 80% of manufacturers and importers were successfully registered to supply COVID-19 response-related items for both the private and public sectors.
- As of April 2022, more than 1.3 million people received health information through official toll-free telephone lines. On telegram, the number of subscribers for receiving COVID-19 updates and information exceeded 7,000 per day.
- As of July 2022, 489,341 confirmed COVID-19 cases and 7,541 deaths were captured and reported into the DHIS2 case-based surveillance tool.
- During the early stages of the pandemic, 3 million households surveyed using eCHIS (Community Health Information System) uncovering the asymptomatic transmission, and the high rate of transmission and reaffirmed the need for a coordinated and multisectoral response.
- As of June 2022, 8 million doses of COVID-19 vaccines distribution were tracked and managed at 338 districts using mBraná, a mobile app used for district-level vaccine logistics management.
- As of July 2022, more than 52 million COVID-19 vaccine doses were administered; 5 million lab tests conducted, of the 489,341 cases identified, 7,541 deaths reported, and 464,202 case recoveries reported. These reports were shared with the public via social media and using dashboards developed with DHA support.
- DHA supported the use of a DHIS2 aggregate tool in 579 districts (nearly 60% of accessible districts). As of July 2022, more than 32 million COVID-19 vaccines doses were reported through the DHIS2 in the districts using the tool.
- 50,000 electronic vaccine certificates were generated and provided to clients using the DHIS2 vaccine client tracker tool.

APPROACH

Preparedness and Disease Prevention: Customized regulatory information system tool was customized to fast track the country registration process for COVID19 prevention related items (E.g., face masks, hand sanitizers, goggles, and other critical supplies.)

Early warning and surveillance: DHA introduced communications approaches to provide accurate and actionable information to the public. Launched a national broadcast service; toll-free, 24-hours telephone numbers (8335 and 994); and daily updates via Telegram and SMS on confirmed cases, fatalities, and recoveries.

Home-based isolation and care: DHIS2 is used to track home-based isolation measures for individuals who test positive for COVID-19 at ports of entry. DHA also developed tools and deployed at the ports of entry in the country for screening, registering, and tracking travelers.

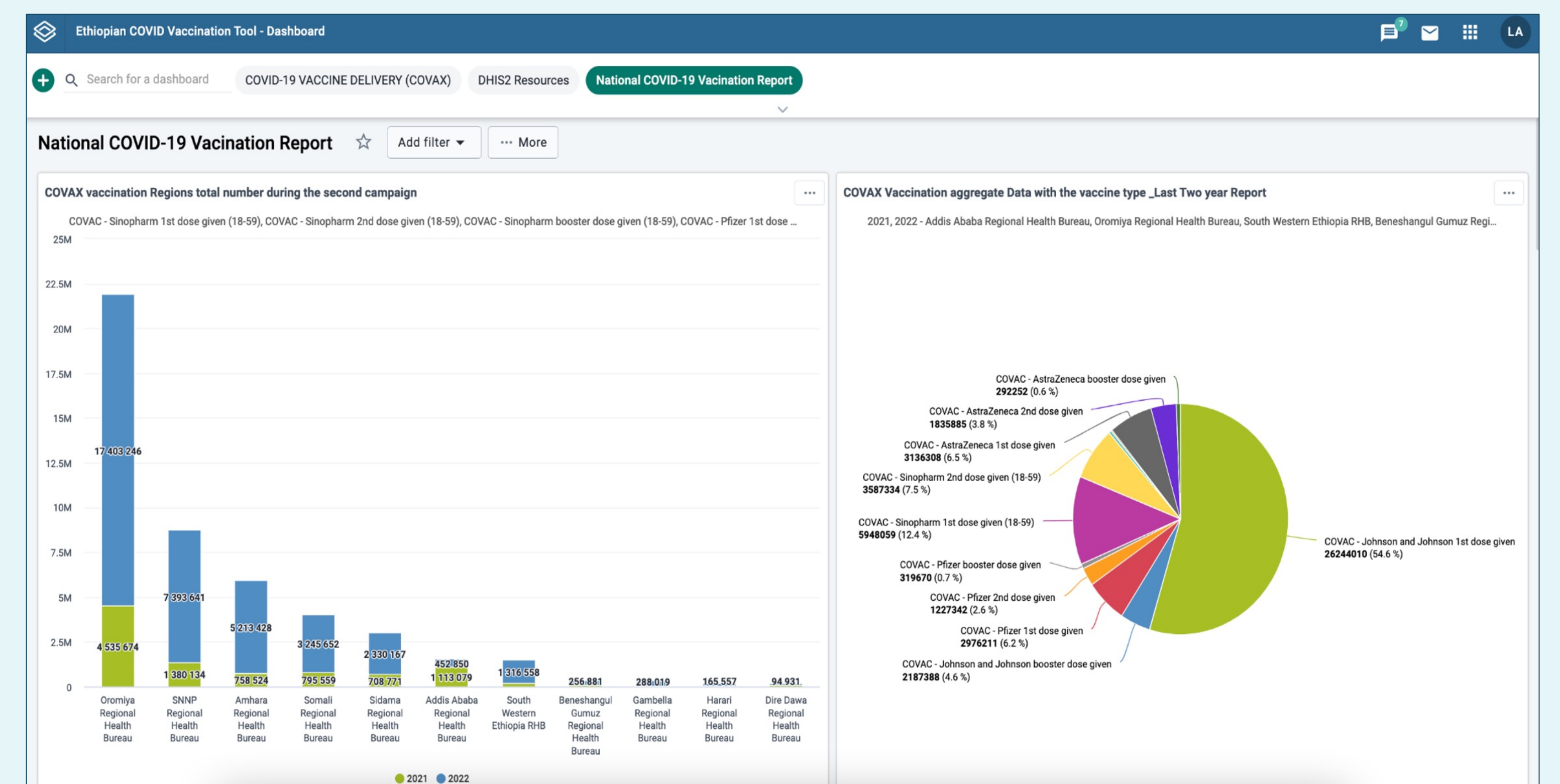


Image 1: COVID19 DHIS2 Tracker Case Based Surveillance Dashboard

House-to-house surveillance: Customized the eCHIS for use in house-to-house case detection surveys to ensure data could be collected, analyzed, and used in real time at national and regional levels to make decisions about what interventions are needed to curb COVID-19.

Tracking COVID-19 vaccine supplies and distribution: DHA supported VITAS (an existing supply chain tool) use at Ethiopian Pharmaceutical Supply Service (EPSS) and its 19 hubs to track COVID-19 vaccine data from pre-shipment to national and regional medical stores. Eighty percent of Ethiopia's vaccine supplies pass through district warehouses, so DHA also revitalized and scaled up the mBraná.

COVID-19 vaccination management: Supported the MOH to roll out a district-level reporting tool and scale up a DHIS2 based COVID-19 vaccination tracker for health facilities. This tool allows efficient and real-time data management of individuals. An Adverse Events Following Immunization (AEFI) mobile app that allow the public to report side effects to authorities.

Strategic information for decision makers: DHA supported COVID-19 vaccine stock status data analysis (ordered, pipelined, shipments, and received) including management of total consumption, months of stock, ending balances, and potential expiry.

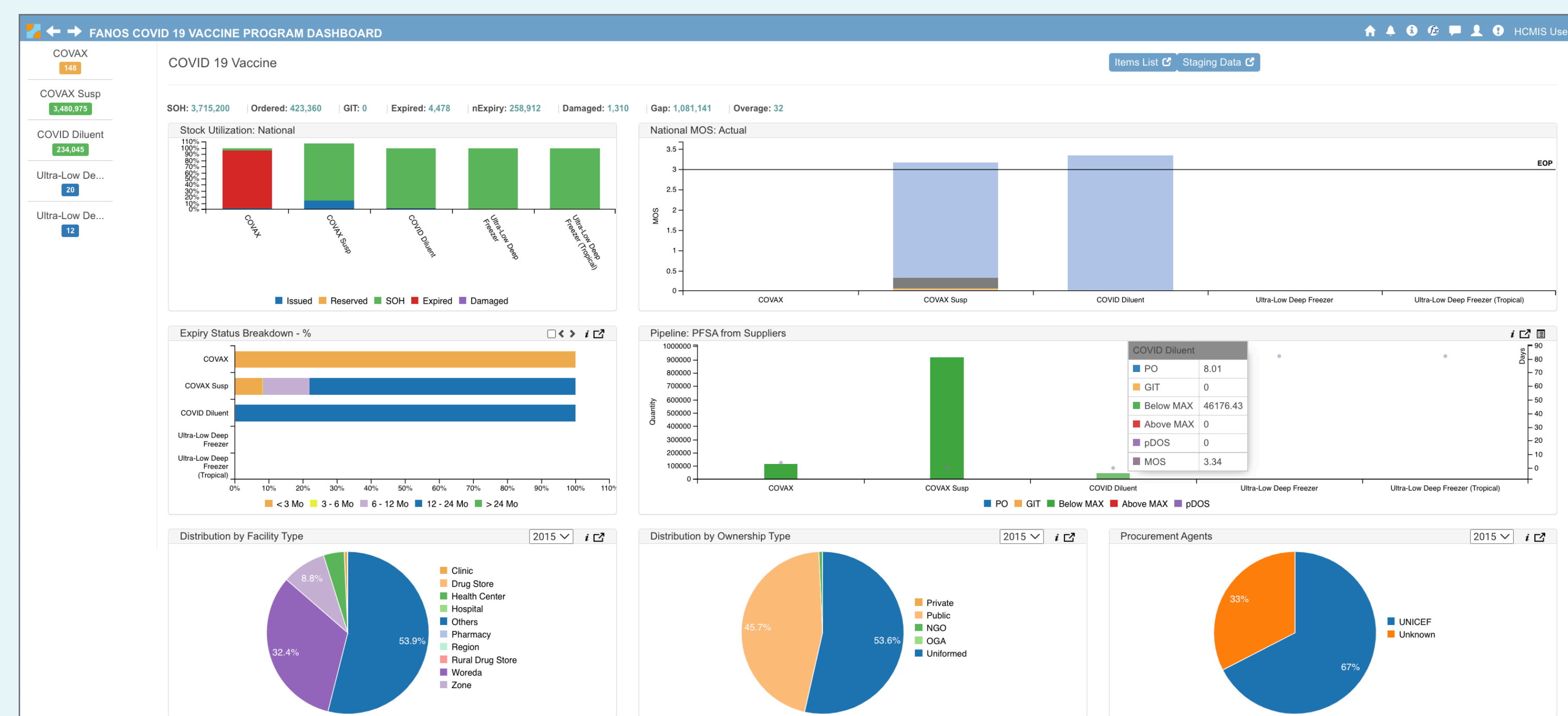


Image 2: COVID19 Supply Chain Dashboard from FANOS (National Supply Chain Dashboard)

WAY FORWARD

- Scale and improve the capture of patient data for decision making.
- Ensure wide scale up of end-to-end visibility of vaccine logistics data.
- Improve quality and use of vaccine program and supply chain data.
- Deploy a data analytics platform with smart features.
- Continue customizing digital platforms for behavior change.