

USAID COVID-19 Vaccine Technical Assistance Implementing Partners Forum

Leveraging Digital Technologies for Efficient COVID-19 Vaccine Program: Experience from Ethiopia

Tariku Nigatu, Loko Abraham, Biruhtesfa Abere, Sami Tewfik, Selamawit Meressa, Tadesse Alemu
John Snow, Inc (JSI)/USAID Digital Health Activity

Strengthen data availability, monitoring and use for decision making

CHALLENGE

- The COVID-19 pandemic revealed critical limitations of the health system in Ethiopia.
- More than 500,899 confirmed cases and 7,574 (1.51%) deaths were reported as of May 30, 2023.
- Lack of access to quality data and limited use of technologies were major challenges faced by the COVID-19 vaccination program.

INNOVATION

- USAID's Digital Health Activity (DHA), implemented by John Snow Inc. (JSI) supported the MOH, the Ethiopian Pharmaceutical Supply Service (EPSS) and the Ethiopian Food and Drug Authority (EFDA) in leveraging existing digital tools and developing new technologies for efficient distribution and utilization of COVID-19 vaccine.
 - DHA, in collaboration with the MOH and other partners;
 - Customized upstream (*Vitas* and *Fanos*) and downstream (*mBrana*) electronic logistic management information system (eLMIS) tools to ensure end-to-end visibility to vaccine distribution.
 - Vitas* is a warehouse management tool used by EPSS to control the inventory of health commodities.
 - Fanos*, EPSS's dashboard, allows real-time data visibility for decisions.
 - mBrana* is used to manage vaccine inventory and distribution at woreda level. It generates an electronic vaccine request form (eVRF) enabling an electronic submission of supply requests.
 - Developed and implemented a DHIS2 based tracker to track the vaccination status of individuals.
 - Developed and implemented a COVID-19 vaccine adverse events tracking tool to facilitate the detection of adverse events following immunization (AEFI).
 - Provided ongoing capacity-building support to health professionals and other stakeholders in the supply chain on different digital tools used for effective vaccine management.

RESULTS/OUTCOMES

- Data from *Vitas* helped forecast and quantify COVID-19 vaccine demand based on consumption data.
- Imported vaccines worth more than USD \$97 million were managed through *Vitas*.
- Fanos* allowed access to real time data for procurement, supply and distribution decisions.

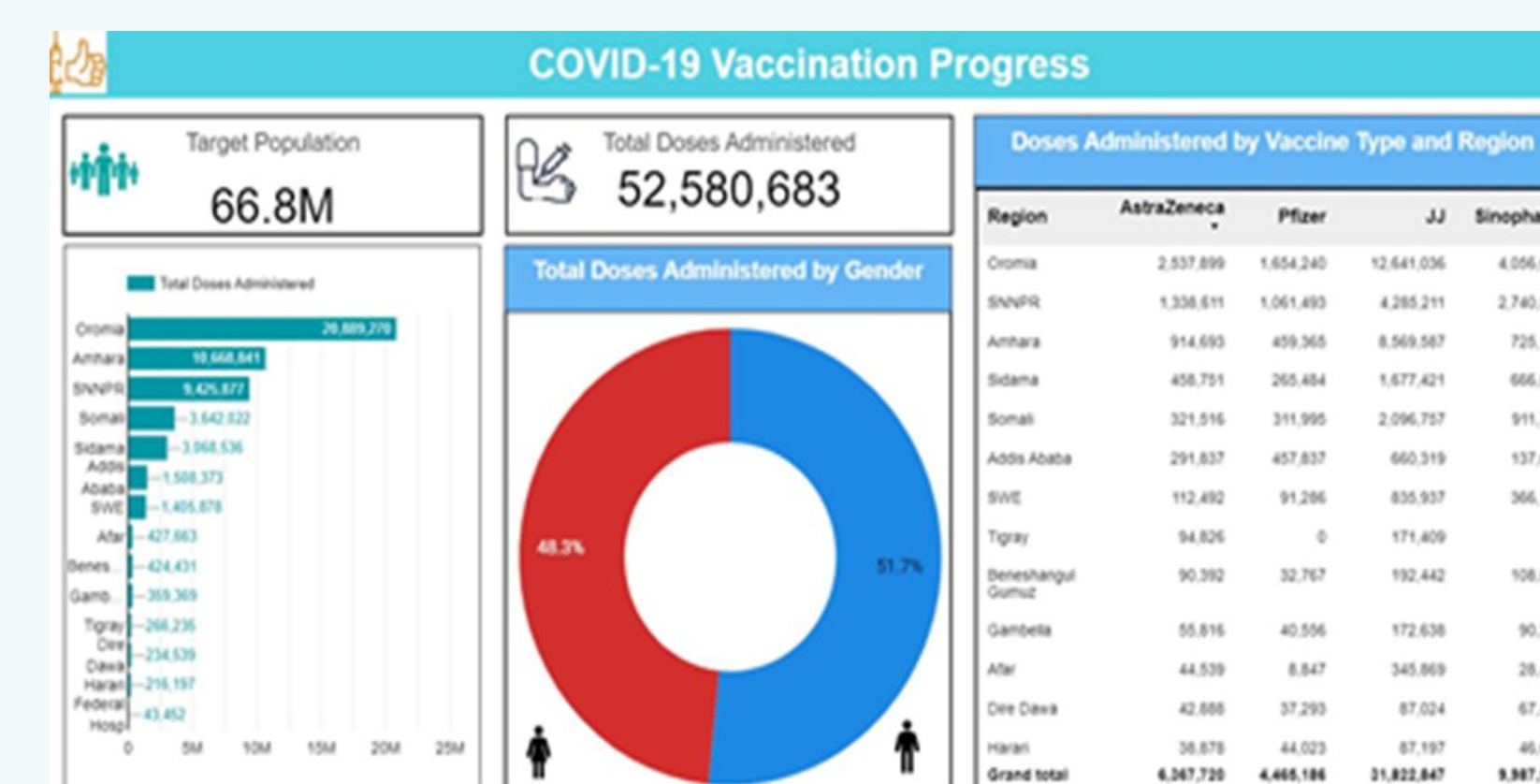


Figure 1: Sample dashboard used to track regional distribution of COVID-19 vaccines

- mBrana* is now deployed in 570 woredas providing woreda-level visibility to COVID-19 vaccine supply chain system.

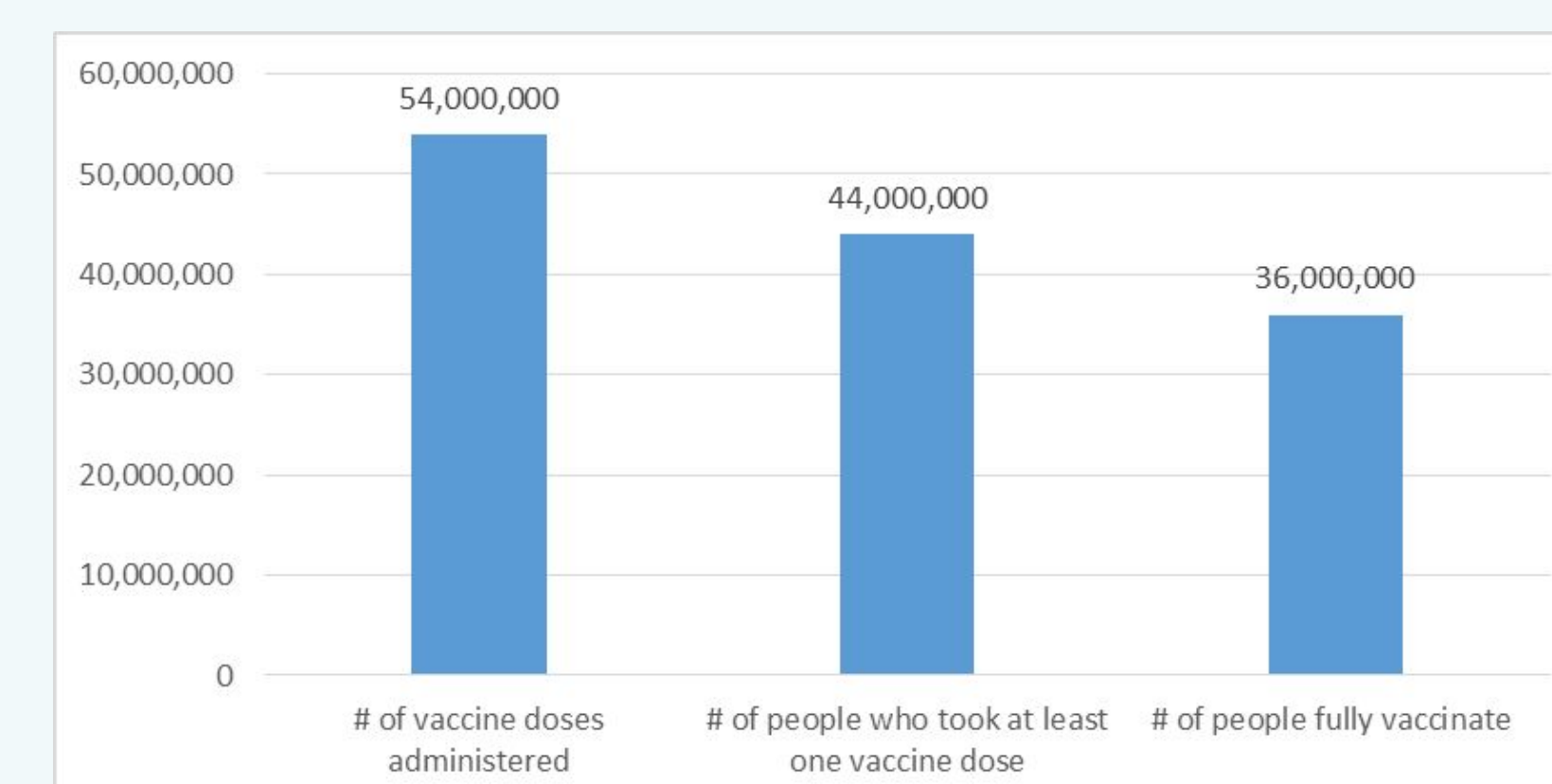


Figure 2: mBrana managed vaccine used by beneficiaries, May 30, 2023

- Individual and aggregate level data about individuals taking COVID-19 vaccination were captured using the DHIS2 platform.
- The DHIS2 tracker has shown potential for improving the data quality and providing verifiable 50,000 electronic certificates for travelers using QR code.
- The daily data were digitally captured, and the reporting rate was consistently monitored and presented to the national task force for informed decision-making.

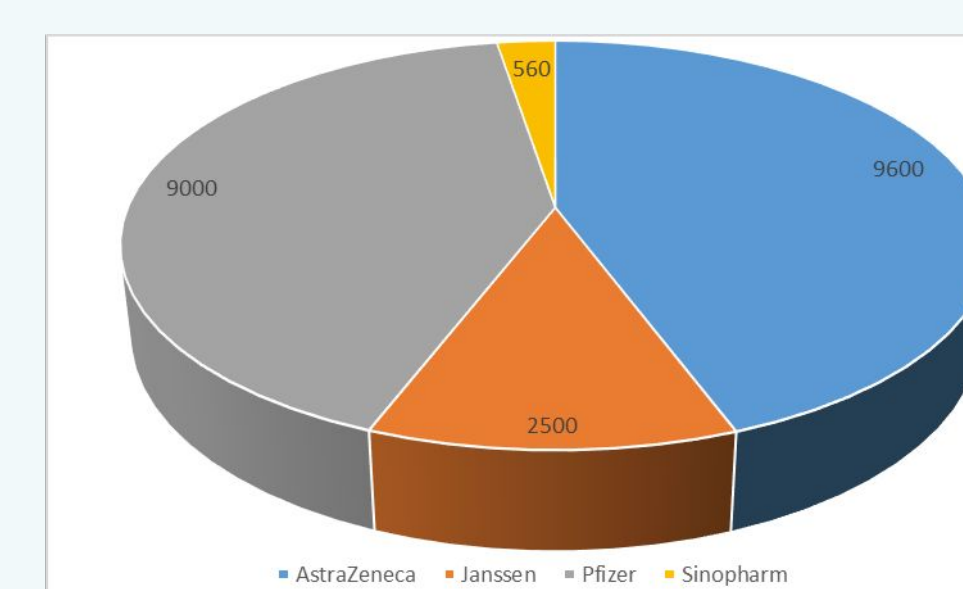


Figure 3: # of cases that reported AEFI, May 30, 2023

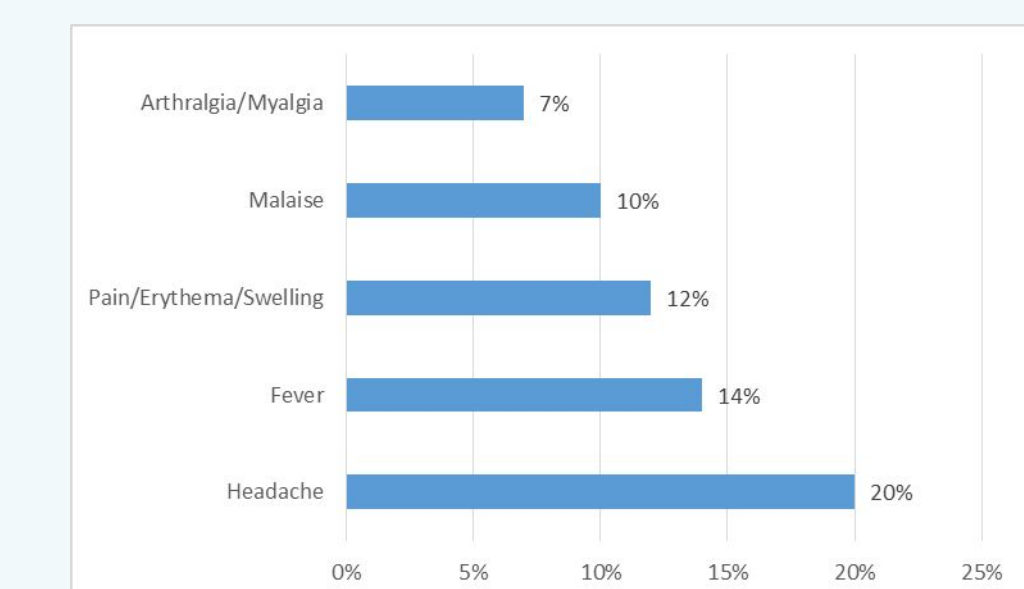


Figure 4: Most commonly reported AEFI, May 30, 2023

- More than 1.3 million people received health information about COVID-19 and vaccination through toll free codes, SMS and social media platforms.
- More than 4,000 health workers were trained to effectively use the system and tools.

APPLICATION TO ROUTINE IMMUNIZATION OR PRIMARY HEALTH CARE

- The experience of DHA indicates the positive role of digital health interventions for efficient vaccination programs.
- The interventions have ensured equitable distribution of COVID-19 vaccines; provided quality vaccination data for timely decisions; helped reach community segments with targeted messages on COVID-19 vaccines; and improved visibility to essential supply chains at many levels.