A strengthened cold chain system improves COVID-19 vaccination efforts in Malawi

Wyson Chilonga and Liren Mkoloma, HSAs working around the clock to keep vaccines safe

For Wyson Chilonga and Liren Mkoloma, Health Surveillance Assistants (HSAs) at Mitundu Community Hospital in Malawi, ensuring COVID-19 vaccines remained viable used to mean working nights and weekends because of unreliable power supply, outdated cold chain equipment (CCE) and a lack of preventative maintenance. Thanks to support from Project Last Mile, with funding from the United States Agency for International Development USAID, Malawi's cold chain system has been strengthened, meaning less vaccine wastage, improved stock management, and HSAs who are less stressed.

Situated at the foot of the Zalanyama Mountains, a remote area in Lilongwe district, in Malawi, a land-locked country in southern Africa, Mitundu Community Hospital serves as a vaccination hub for 59 health posts. The facility, along with many others in the country, has faced several challenges in its COVD-19 vaccination efforts, from maintaining the cold chain to managing adequate inventory of vaccines.

Vaccines were being wasted at MCH because of unreliable electricity supply, which meant refrigerators were experiencing abnormal recordings beyond 2-8 degrees Celsius, resulting in a broken cold chain and vaccines needing to be discarded. Wyson and Liren were trying to counteract this problem by returning to the facility at night and on weekends to check refrigerator temperature readings during blackouts. When they saw temperatures were rising, they would transfer the vaccines to cold boxes stuffed with ice packs.

The unreliable power supply, together with a lack of basic preventive maintenance skills among the HSAs, meant the facility was forced to stock small volumes of vaccines, which was compromising vaccine access in the surrounding communities. Given that the Malawian Ministry of Health-Health Education Services (MOH-HES) had set a goal of vaccinating 70% of the country's population by December 2023, something had to be done.

Project Last Mile with funding from USAID carried out a CCE audit and, based on the findings, Project Last Mile's service technicians visited 570 health facilities, repaired 91 CCE units, and provided inspection and preventive maintenance services for 836 CCE unites. They installed 41 solar panels, 55 batteries, and 100 voltage regulators. In the process, they trained 575 HSAs to conduct basic preventive maintenance to prolong the longevity of CCEs.

Mitundu Community Hospital is one of the facilities to have benefited from USAID support, and recent temperature monitoring charts at the hospital, as well as HSA interviews, make it clear that the CCE interventions are working.

Project Last Mile supplied the facility with batteries and assessed and maintained the whole solar power system, which is currently used as the primary source of power for some refrigerators (as well as for lighting for the whole department). The supportive supervision report shows that the CCE units are clean and operational following the continuous preventive maintenance conducted.

"Now, I can spend time with my family at night or during the weekend without having the stress of going back to the facility to check refrigerators."
Wyson Chilonga

"Our community has access to vaccines and we can vaccinate everyone, including those living in hard-to-reach areas."
Liren Mkoloma

The Solar System Equipment supplied by Project Last Mile to power CCE