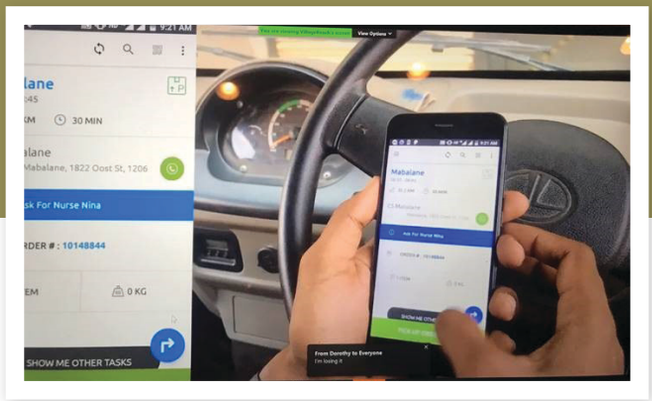
SampleTaxi:

Lab Samples Share a Ride for Better Health



Transporting time-sensitive lab samples from local health clinics to central hospitals and laboratories can be a challenge in rural areas throughout sub-Saharan Africa. Long distances and sporadic available transport mean it can take many days or even weeks for samples to get tested and results to be shared. Most critically, life-saving treatments for diseases like tuberculosis and HIV are not able to begin.

VillageReach partnered with the Mozambique Ministry of Health (MISAU), and technology provider Logistimo to develop an innovative ridesharing program for lab samples called SampleTaxi. Like Uber has revolutionized ridesharing for passengers, SampleTaxi is helping increase the efficiency and speed of medical specimen delivery in Sofala province, Mozambique, without adding new vehicles to the system.

Samples collected from patient at health facility → Health worker contacts dispatch hub using toll-free number → Dispatcher registers request; SMS generated to health worker → Dispatcher identifies appropriate drivers; Driver accepts/rejects request → Drivers scan QR code and pick up samples; photo and signature → Samples delivered to district hub or laboratory; scanned upon delivery

On-demand delivery of medical samples for better health outcomes

With SampleTaxi, health workers call a toll-free hotline to request a sample pickup, and a dispatcher uses fleet-management software to identify and assign the closest available network driver to pick up the sample and deliver it to a central health facility. Network drivers are from government or a participating NGO.

SampleTaxi focuses initially on three time-sensitive tests:

1. **Early Infant Diagnosis (EID)**, which tests for HIV in infants so that they can be given anti-retroviral therapy right away, leading to better outcomes.
2. **Viral Load (VL)**, a test that determines whether and how HIV treatments are working, so changes can be made to regimens if needed.
3. **Tuberculosis (TB) tests.** To confirm TB and test for drug resistance, good quality samples are necessary and time to test and temperature are critical. It is important to test early since untreated TB can spread easily.

Establishing an electronic chain of custody

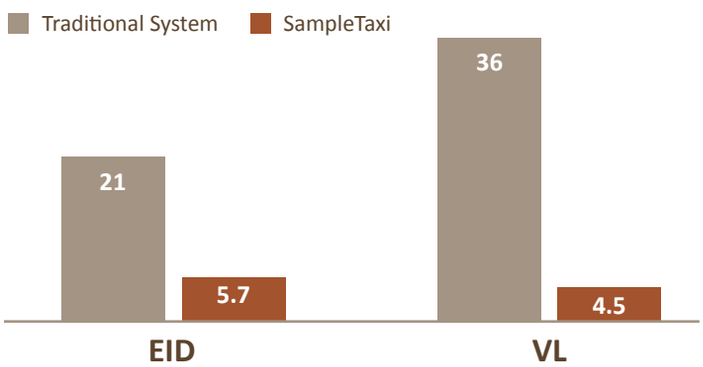
GPS tracking allows a dispatcher to track the path of each driver and samples they are transporting and report back to the health worker when they can expect pickup. The health worker is also notified via automatically-generated SMS when the sample has arrived at the health facility.

Increasing speed of sample delivery for testing

Since the program was launched in two districts in Mozambique in July 2018, drivers in the SampleTaxi network have delivered samples in significantly less time than traditional delivery methods. In the traditional system, it can take up to 60 days for samples to arrive at laboratories. Irregular transport, lack of driver availability and other circumstances can get in the way of a sample reaching the lab.

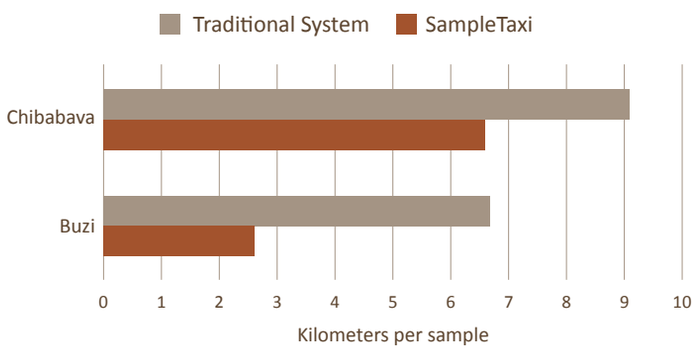
Over the period from July to December, EID tests transported via the SampleTaxi network arrived in 1/4th of the time on average versus the traditional system. Viral load tests using the SampleTaxi network arrived in 1/8th of the time. Comparison data was unavailable for TB tests, however TB tests arrived at the lab in less than 8 hours using the SampleTaxi network.

Graph 1: Comparison of time from collection to lab



The SampleTaxi network optimized the routes traveled for delivery to labs. In a typical month, kilometers traveled per sample in Buzi district averaged less than half of traditional routes, and in the Chibabava district, about a third less travel was required to get samples to the labs.

Graph 2: Comparison of mileage from collection to lab



*Since the pilot program was launched in July 2018, SampleTaxi has delivered samples in **less than half the time** of regular delivery methods.*

Faster Delivery, Better Health

Using SampleTaxi, health workers can transport and track samples at least twice as fast as using regular methods and improve care to their patients. Benefits include:

- ✓ Integrate other sample types and paper results into the delivery service
- ✓ Introduction of digital tracking of samples, confirming when they arrived at the lab
- ✓ Higher quality samples because they are transported faster and in proper storage conditions
- ✓ Health workers increasing their time to focus on patients

More than anything, earlier diagnosis means earlier treatment, which can lead to better health outcomes.

What's Next for SampleTaxi

Going forward, VillageReach aims to increase the number and diversity of SampleTaxi drivers and deliver more samples to more health facilities throughout Mozambique. There is potential to:

- ✓ Expand the number of sample types and paper results for delivery
- ✓ Expand the geographic scope of delivery service
- ✓ Increase digital tracking of samples
- ✓ Involve the private sector and other NGOs to diversify drivers

VillageReach is seeking opportunities to test this concept further. If you are interested in using transport in a more effective way, please contact Barbara at **barbara.jones.singer@villagereach.org** for further information.

*VillageReach works with governments to solve health care delivery challenges in low-resource communities. Our work improves the lives of more than 20 million people in sub-Saharan Africa. Learn more at **www.villagereach.org**.*

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