



D-tree

Empowering Health Volunteers with Data Insights

Industry

Health

Customer Since

2016

D-tree [International](#) is a digital global health organization committed to solving the complex health challenges of those in need through cutting-edge digital solutions. For nearly 15 years, D-tree has been a pioneer in digital health and has supported health workers serving over 5 million families in 16 countries.

D-tree takes a systems approach, using public health and technology expertise to co-design, develop and implement innovative and scalable solutions which strengthen health systems, improve program efficiency, and save lives. They work with ministries of health, donors, and implementing partners to define programmatic challenges, evaluate if and how technology can be used to address those challenges, and then design and build innovative solutions.

- **Problem:** As community health volunteers work with pregnant women and families across Zanzibar, they capture vast amounts of data – D-tree has tens of thousands of clients that create millions of data points.
- **Action:** D-tree's technology and program management teams needed a simple way to collect data from complex data sources and share insights with government officials and health volunteers to take immediate action.
- **Solution:** Today, D-tree's data comes together in Periscope Data, which D-tree uses to make truly life-changing decisions on how to best advise Zanzibar health volunteers and management teams.

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Sam Lilienfeld,
Technology & Data
Manager, D-tree



Capturing & Analyzing Volunteer Data in Real-Time

D-tree has been working in Zanzibar for more than eight years, empowering community health volunteers (CHVs) with training, infrastructure, and technology systems to enhance their effectiveness. D-tree provides 400+ CHVs with a smartphone that is equipped with a workflow management mobile app that allows them to register pregnant women and track when the CHV should visit them in their homes. The CHVs and the people they serve are dispersed across two major islands, so using Periscope Data helps D-tree keep track of the work CHVs do throughout the region.

“These community health volunteers are highly respected members of their communities who are passionate about making an impact,” said Sam Lilienfeld, Technology & Data Manager at D-tree. “But they aren't doctors or nurses – they aren't formally trained. So we're using insights from Periscope to help them deliver health services to people in their community, even without that formal education.”

One of the major roles of Periscope Data in their workflow is in sharing data with local governments. D-tree's data serves as one of the best sources of community health information for Zanzibar's Ministry of Health. Government information systems are usually less flexible when it comes to providing more customized analyses to a wider audience within the government hierarchy. D-tree leverages Periscope Data to create dashboards for the health management teams in every district of Zanzibar, so they have ongoing access to see our data and understand the magnitude and quality of care in local communities.

D-tree's Zanzibar operation has a three-person technology team that regularly creates new dashboards and looks for insights in Periscope Data, but their whole 15-person team consumes the content on a daily basis. Field staff regularly use Periscope to check on CHVs to ensure they complete required tasks (such as home-visits) every month, while program managers and senior leadership keep an eye on project outcomes and impact.

“Periscope is really the primary data portal for our organization,” said Lilienfeld. “All our staff and government partners who want to see analysis get it through Periscope, and they can see it instantly as the data comes in from our CHVs. We really use data to capture what's going on in the field. And we use it for operationalizing everything – from volunteer compensation to monthly activity tracking, that's all calculated based on the data we capture and analyze in Periscope.”

Improving Health & Saving Lives

A major focus of D-tree's work in Zanzibar is maternal and child health. CHVs register pregnant women into the program and follow them through the post-partum period. As CHVs utilize the mobile app during their visits, data is collected as a byproduct. Periscope helps D-tree analyze the percentage of women giving birth at healthcare facilities versus at home or elsewhere. Raising the facility delivery rate has been a key aspect of the Zanzibar Ministry of Health's strategy for improving maternal and neonatal health outcomes and tracking that data in real-time allows the D-tree team to evaluate the success of the initiatives to influence that trend and see how it improves over time.

“With Periscope, you write a query and the data's there immediately in a chart. So many of the steps in the analytics process are as simple as they can possibly be,” said Lilienfeld. “For us, that means if women are reporting that they're facing poor quality care, that's something we can see quickly in Periscope and find ways to address those issues.”

Recently, a local government leader noticed in a Periscope Data dashboard that pregnant women were facing unusually high costs following visits to healthcare facilities in a specific region. That's not how healthcare should work in Zanzibar – there should be no cost when going to public healthcare facilities. Upon digging further into the visualizations, they discovered that a very important product was out of stock at the facility and patients were required to buy and pay for it themselves.

“That led to an immediate call for policy changes in the region, where they were able to allocate money in the budget differently to provide funding for this specific product,” said Lilienfeld. “And now people in that area are no longer having to pay for it themselves. That insight was really obvious when we jumped into the data in Periscope, and we were able to take some concrete action right away to make an impact.”

“It Just Works”

Lilienfeld was already familiar with SQL before starting at D-tree, which made his onboarding process with Periscope Data quick and easy. But he says the biggest advantage of Periscope is its usefulness even for those who don't have any previous experience with data analysis.

“The overall simplicity and ease of the platform is hugely important for us,” said Lilienfeld. “Public health experts on our team who aren't technical but are interested in data can make visualizations with Periscope and easily explore data in our database in a user-friendly way.”

Lilienfeld faced challenges prior to implementing Periscope with presenting the results of complex analyses in a way that supervisors could easily consume. But with Periscope Data, they've replaced a very manual process of checking all those data sources for consistency with a process that intuitively brings data sources together in one platform and enables everything from basic data visualization to advanced analysis.

“Our app helps us track whether project supervisors held a series of monthly meetings, and there are multiple sources of data that can indicate whether that happened,” said Lilienfeld. “We had all the data we needed from the app, but we used to just email out Excel sheets as attachments that were rarely opened. Now, with Periscope, our team knows there's one link, one place they can go for that analysis, and we can easily update it every month with new information.”

A Foundation for Actionable Information & Growth

D-tree also credits its smooth data workflow to Periscope Data's intuitive interface, ease of sharing reports, and strong security and privacy settings. Lilienfeld regularly leverages the advanced security and privacy controls in Periscope to password protect dashboards and then share them out with health officials. D-tree is also closely connected with the award-winning support team from Periscope Data, using the chat functionality to quickly answer any questions and better understand the product.

“It's so simple to set up and send links to interested groups with all the data they care about – and for us, we don't have a ton of technical resources, so to have that security and privacy via Periscope handling our infrastructure is really good,” said Lilienfeld. “And whenever there's any issues, the Periscope team has been really helpful and responsive. Even though there's a big time difference, I know in the evening here I'll get an immediate response, and otherwise I'll have the answer I need by the following morning.”

Moving forward, Lilienfeld is excited about leveraging Periscope Data as the production environment for delivering actionable information to a variety of stakeholders. Currently, Lilienfeld's team uses Periscope's integration with Python to regularly build out new apps, chain views together, and link them with Python code.

“We're in the process of scaling up our projects to potentially include five times as many volunteers or more in the coming months,” said Lilienfeld. “And as we scale the project, the volume of data we collect is going to grow correspondingly. Periscope has worked really well for us and it'll be an important part of our continued growth.”