



LivingGoods



MEDIC MOBILE™

How Living Goods and Medic Mobile integrated the EquityTool into a mobile application to measure and improve health service delivery



A Community Health Worker visits a household in rural Kenya, where she will use a Medic Mobile application to measure the equity and impact of Living Goods programming

EQUITY TOOL

powered by



METRICS FOR MANAGEMENT

credit for all photos in report: Medic Mobile photo archives Busia County, Kenya

BACKGROUND

[Living Goods](#) is a nonprofit that operates a network of community health workers (CHWs) in Uganda and Kenya, most of whom are recruited from existing government CHW networks. Facilitated by cutting-edge mobile technology, results-based performance management systems, and a cadre of motivated and supervised community health workers, Living Goods helps people in resource-constrained settings access cost-effective basic health care right at their doorsteps.



Living Goods-supported CHWs provide frontline health support, filling an important gap in the health system by visiting families in their homes. CHWs provide care for easily treatable yet deadly common childhood illnesses, such as malaria, pneumonia and diarrhea. They also support mothers and newborns by identifying and registering pregnant mothers and providing ongoing care throughout their pregnancies via a schedule of antenatal and postnatal care visits. Most CHWs are between 30 and 60-years-old and have some education – including critical literacy skills – although not usually a university degree. They frequently have a background in health, such as past experience as a government CHW, a midwife, or a nurse. Each CHW provides frontline health services to more than 100 households in her own community. With approval from the Ministry of Health, CHWs are trained to provide basic diagnoses and to dispense medications for certain illnesses.

THE CHALLENGE: IMPROVING EQUITABLE SERVICE DELIVERY

With an effective network of CHWs in place, Living Goods' challenge became how to measure and maximize **efficiency** and **equity** in its health service delivery. While effective, the cumbersome paper-based diagnostic flipbooks and data collection that they used early on made standardization and timely monitoring of service delivery difficult. There was a clear need to improve the CHW workflows to better support their invaluable contributions to community health.

In addition, Living Goods was curious to know who was receiving their services. Numerous global health studies have demonstrated that socioeconomic status is a



strong contributor to lack of access to health care and poorer health outcomes. Beyond their prioritization of geographic areas where the cost and location of health services were barriers to care, Living Goods wanted to understand at a more granular level if they were actually reaching the individual households in each community most in need of assistance. They began asking key questions such as: does household wealth affect patient outcomes across our interventions? How can we better leverage those data to improve service delivery and ensure equitable coverage of health services across all income levels?

The challenge: How can we leverage household wealth data to improve service delivery and ensure equitable coverage of health services across all income levels?

THE SOLUTION: INNOVATIVE ICT4D WITH MEDIC MOBILE AND THE EQUITYTOOL

[Medic Mobile](#) is a nonprofit focused on building open source technologies that support CHWs to deliver high quality care at a patient's doorstep. It was founded in 2010 to equip health workers in low- and middle-income countries (LMICs) with digital tools to provide better health care and to reach the poor with services. Medic Mobile focuses on serving the hardest to reach communities in Africa, Asia, and Latin America, and currently supports a network of more than 20,000 CHWs.



Medic Mobile builds open-source software to support a new wave of health workers and integrated health systems. Their tools can be accessed on- or offline through smartphones, tablets, and computers. Data is hosted locally on health workers' device of choice, allowing them to view, edit, and submit new data without an internet connection. Medic Mobile's toolkit is available without licensing fees for use by a variety of users: from large-scale government programs to the smallest, least-resourced clinics.

With their expertise in designing mobile tools for CHWs, Medic Mobile was an ideal partner for Living Goods. In 2014, Living Goods and Medic Mobile came together to design a customized version of the Medic Mobile software to support the work of Living Goods CHWs. Medic Mobile spent time with Living Goods team members and CHWs

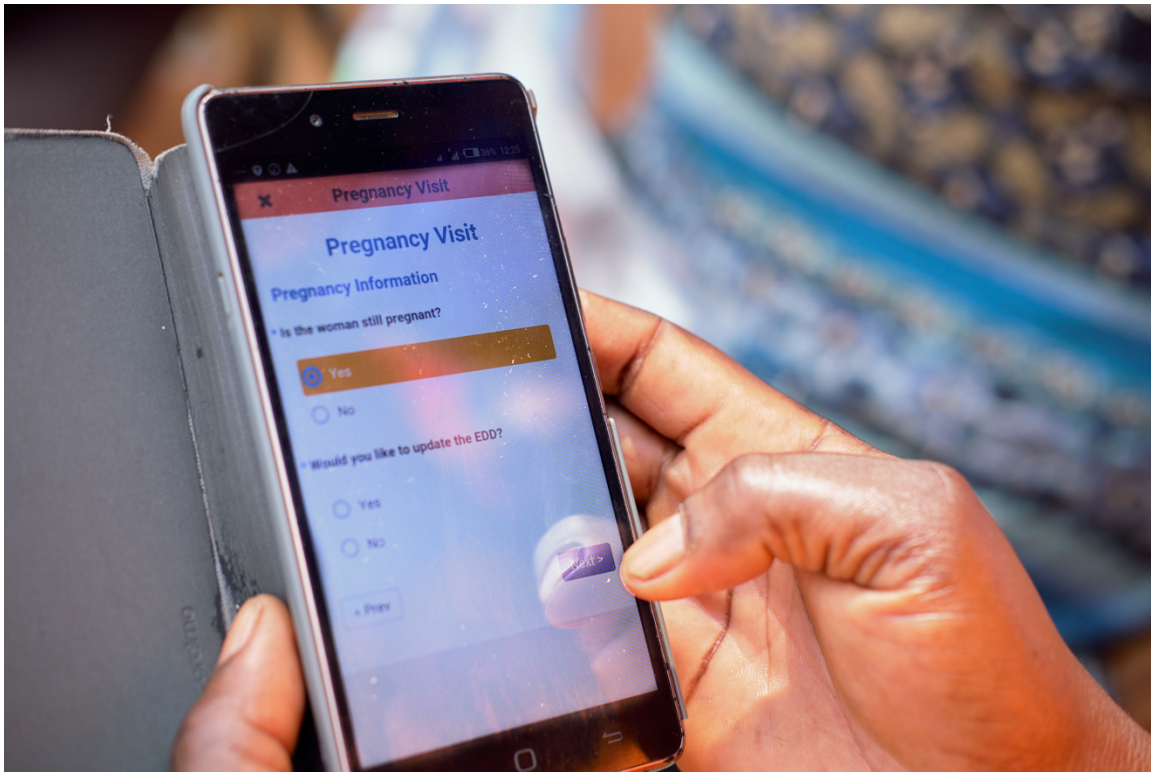
to understand their workflows, employing a human-centered design methodology to co-design a mobile app tailored to their program. Now called the Smart Health app, this tool supports thousands of health workers in Uganda and Kenya, making it one of the world's largest CHW programs powered by the Medic Mobile toolkit.

In Living Goods' and Medic Mobile's work, the measurement of equitable service delivery emerged as a key priority. While both organizations had experimented with different approaches to try to assess wealth in the past, they lacked a standardized way to measure how effectively they were reaching the poorest households—that is, until they were introduced to the [EquityTool](#). Developed through a multi-agency collaboration and supported by [Metrics for Management](#), the EquityTool is an easy-to-use, mobile-based application to assess the wealth of clients in 50+ low- and middle-income countries, allowing programs to rapidly assess their effectiveness at targeting the poor.

As a simple, free, and accurate, way to measure and categorize households based on wealth and benchmark results to national data, the EquityTool solution fit nicely within the Medic Mobile platform. Pre-determined country-specific equity questions could be embedded into tools and



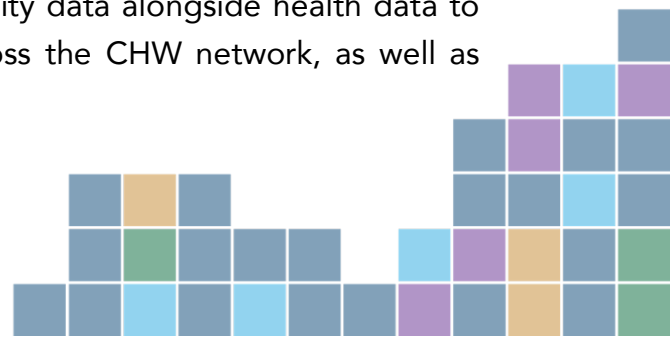
technologies the Living Goods CHWs were already using. Furthermore, the process to add the EquityTool questions to the mobile platform was straightforward, using XLS formatted forms that could be directly loaded into the app. Living Goods and Medic Mobile deployed the new EquityTool survey within existing CHW workflows, allowing the CHWs to complete the survey in a way that complemented their work while minimizing duplicate questions. The automated calculation abilities provided through the EquityTool also allowed for the application to generate the equity score natively, without needing to run the data through an external sorting mechanism.




THE RESULT: EFFICIENT AND EQUITABLE HEALTH SERVICE DELIVERY

Since 2014, Living Goods has used the Smart Health App to improve diagnosis, standardize treatment protocols to ensure consistently high quality of care, and enable real-time on-site data collection. Online dashboards ensure that everyone from HQ staff to on-the-ground field supervisors can access the information and use it for ongoing performance management. Recently, the Living Goods-Medic Mobile innovation partnership was recognized as [an example of best practice in scaling community-based health information systems](#). This implementation context afforded distinctive opportunities to leverage the EquityTool.

In 2016, Living Goods and Medic Mobile updated the Smart Health App with a new Family Survey powered by the EquityTool, to great success. The incorporation of the EquityTool has allowed the partners to examine equity data alongside health data to understand inequities in health service delivery across the CHW network, as well as





within communities. In many cases, they are able to analyze their results at the individual community level, which has empowered them to better adjust services to meet the unique needs of that community.


Medic Mobile and Living Goods continue to work together to constantly evolve the design and use of the Smart Health application, as well as to scale its implementation. By the end of 2017, 1,400 CHWs in Kenya had administered Smart Health equity surveys in approximately 160,000 households, or 87% of the families served by the CHWs involved in the trial run. Today, use of the application continues to expand both within Kenya and in neighboring Uganda, where nearly 2,500 CHWs began using the application in 2018.

THE FINDINGS: EQUITY MATTERS

Medic Mobile's impact team worked with a professor at the University of California, San Francisco to analyze the data they had gathered with the EquityTool. The partners were pleasantly surprised to find that Living Goods CHWs are reaching households of all wealth quintiles at rates roughly proportional to the demographics of each of the areas where they work. This information confirms that Living Goods' model is well designed to serve the range of households within a community.

In addition, by looking at equity data alongside health data including under-five childhood health assessments and treatments, pregnancy registrations, and antenatal and postnatal care provided, they have been able to correlate the wealth distribution information to key health outcomes. For example, one metric they examined was facility deliveries of pregnant mothers by client wealth quintile in Kenya. Like the Demographic and Health Surveys (DHS) had shown, they found that women in higher wealth quintiles delivered in facilities more often than women in lower wealth quintiles, with a clear trend upward from women of the lowest to the highest wealth. However, their in-depth analysis allowed them to demonstrate that **women across wealth quintiles who**

The findings represent a substantive validation of the Living Goods approach. More importantly, the combination of Medic Mobile's software and EquityTool's data has provided Living Goods with the means to specifically target pregnant women in the lowest wealth quintiles, further improving their reach and impact.



had been served by Living Goods CHWs were far more likely to deliver in facilities. For example, while only 30% of women in the lowest wealth quintile in Kenya nationally deliver in facilities, this percentage increased to 70% among Living Goods clients!

Considered together, these data represent a substantive validation of the Living Goods approach. More importantly, the combination of Medic Mobile’s software and EquityTool’s data has provided them with the means to specifically target pregnant women in the lowest wealth quintiles, further improving their reach and impact. As Living Good Director of Analytics Brad Presner explains: *“The ability to have equity data within the Smart Health app gives us a very powerful mechanism to target specific interventions with our CHWs. Especially when combined with other data, whether other family survey questions or our longitudinal health data, we can go beyond understanding who we serve and use this data to drive greater impact on the ground.”*

NEXT STEPS: TARGETED AND PROACTIVE HEALTH SERVICE DELIVERY

Both Living Goods and Medic Mobile are committed to finding new ways to use equity data to improve health services. Together they are investigating how to use their equity, health, and social data to develop predictive analytics to improve service delivery. For example, if the data demonstrates that a woman from the poorest wealth quintile is more likely to experience difficulty breastfeeding her newborn, her CHW could be assigned real-time preventive health tasks or post-natal follow-ups to improve outcomes. Such predictive models would allow CHWs to move from providing treatment to proactively preventing disease.

One potential next step is the development of predictive models, which would use EquityTool data to allow CHWs to move from providing treatment to proactively preventing disease.

In addition, Living Goods is looking deeper into how their data aligns with DHS information to explore whether health outcomes in their areas of intervention differ from national results based on wealth. They will continue to research wealth and health outcomes and are beginning work to target interventions to address specific community-level and country-wide inequities.

Medic Mobile plans to continue to learn from and build on this initial project with Living Goods, to further integrate equity measurement within health systems. They are undertaking similar analyses with partners in other settings, with the aim of designing an 'equity lens' that can account for additional data sets, related for example to geography and gender. Their vision is that every health system they support routinely assesses health equity and the social determinants of health and uses the data to inform strategies for providing care that reaches everyone.

Metrics for Management, a US-based NGO supporting the EquityTool, continues to update the tool as new DHS (or comparable national) surveys are completed, empowering implementers in 40+ countries and across development sectors to make real-time adjustments in program delivery that increase organizational effectiveness and strengthen program outcomes.



To learn more about the organizations and tools in this report:

Living Goods – info@livinggoods.org | www.livinggoods.org

Medic Mobile – support@medicmobile.org | www.medicmobile.org

EquityTool – communications@m4mgmt.org | www.m4mgmt.org

Metrics for Management – support@equitytool.org | www.equitytool.org