

# Case study: Medic Mobile

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## Product summary

**Year Launched:** 2009

**Business Model:** Donor, B2B

**Targeted Device:** Basic phone, Feature phone, Smartphone, Tablet, PC/Laptop

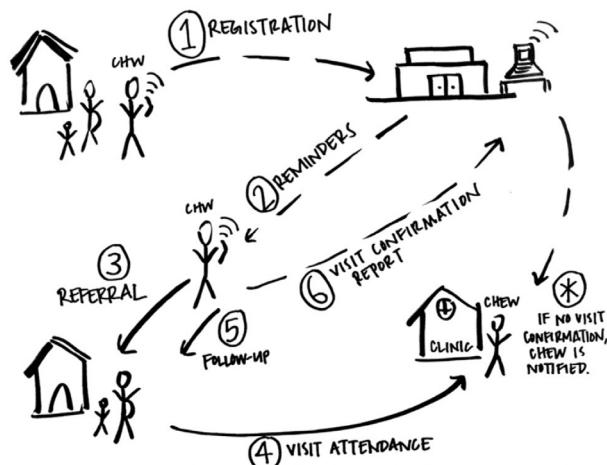
**Primary Delivery Technology:** SMS

**Products & Services:** Data collection, Interactive content

**Markets Deployed In:** 21 countries across Africa, Asia, Latin America and the Caribbean

**Estimated Total Number of Users:** 9,000+ CHWs supported (serving 5 million end users)

## Mobile Health



Medic Mobile believes in using technology to improve health equity. It is guided by a mission to support community health workers and families using mobile and web tools. In order to achieve this, Medic Mobile provides community health workers (CHWs) and those involved in others aspects of healthcare with a mutually accessible platform for storing and sharing important and up-to-date information such as pregnancies, disease outbreaks, essential medicine stocks, and updates about emergencies. Today, this impacts the healthcare of more than 5 million people in 21 countries across Africa, Asia, Latin America and the Caribbean.

## 1 Background

The idea for Medic Mobile was conceived when Co-Founder Josh Nesbit was a pre-medical undergraduate student. Whilst working for a summer at a rural hospital in Malawi, he observed patients walking up to 100 miles to see the hospital's single doctor, and community health workers walking over 30 miles to deliver reports by hand. Alongside this, he observed the strength of mobile

reception in these rural areas of Malawi, highlighting the potential impact of mobile communication in an mHealth context. These observations lead him to found the mobile-based healthcare project, Mobiles in Malawi.

In 2008, Mobiles in Malawi merged with a service named MobilizeMRS - which focused on electronic medical records and data collection - to form FrontlineSMS:Medic, which became Medic Mobile. In 2010, Medic Mobile grew to a team of four and expanded its work to ten countries across Africa, Asia, Latin America, and the Caribbean. By 2011, the Medic Mobile SIM application for feature phones was released, the service launched its first regional-scale programme in Africa, and it collaborated with 25 partners to reach one million people.

## Objective

Medic Mobile aims to develop mobile-enabled services that support community health workers, staff at community clinics, ministers of health, and others to: monitor diseases, stay in touch with families, send emergency alerts to regional hospitals, and convey critical data to key decision makers at health ministries. Combined, these components can increase and improve the delivery of vital healthcare in underserved communities worldwide.

## Results

- Currently working with over 9,000 community health workers (CHWs), a 71% increase from 2012
- Worked with 39 partners to deploy tools in 21 countries
- Serving over an estimated 5 million end users

## Impact

Medic Mobile enables people at all levels of the health delivery system to use simple, powerful, flexible, and inexpensive tools to help people access care, stay in care, and receive care that is of a higher quality. Over 5 million end users have felt these benefits as a result of the Medic Mobile platform.

## 2 Lessons Learned

- **As technology evolves, it is necessary to maintain a knowledge base of use cases.** As the service develops, Medic Mobile's use of a case roadmap - combined with their delivery model - is the foundation for their strategy, which helps them to develop roadmaps for their product, partnerships, and staffing.

## 3 Approach

The Medic Mobile platform runs on feature phones, smartphones, tablets, and desktop computers. These tools are currently focused on antenatal care, childhood immunizations, disease surveillance, drug stock monitoring and communicating about emergencies.

The mobile aspects of the service allow patients and community health workers to use inexpensive feature phones to collect structured data that they can submit via SMS to a centralised computer or laptop at a clinic, hospital, or NGO. Healthcare workers can also make direct calls to receive help in caring for community members. Data can also be sent through a variety of SMS formats. Users can also install Medic Mobile for feature phones via a small parallel SIM—a small wafer that slides under a phone's existing SIM card—so that any GSM phone can run the Medic Mobile app. This makes it possible to register new pregnancies and births, schedule appointment reminders, and perform other tasks. Medic Mobile for desktop is situated on a computer or laptop in a clinic or ministry of health. In this setting, it acts as a flexible, scalable information and communication centre, without requiring a connection to the Internet or remote server. Medic Mobile stores data received from community health workers, manages relationships, sends automated messages to individual or multiple recipients and automatically schedules appointments, among other functions.

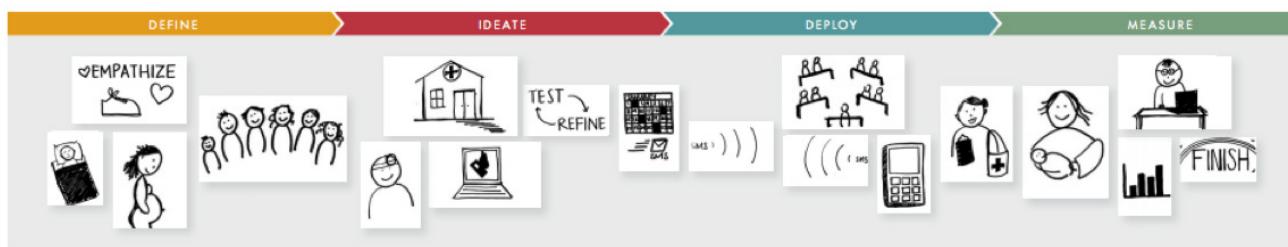
Alongside this, Medic Mobile for desktop provides real-time access to community data, enabling faster communication and more targeted support to patients and communities. Data can be entered via SMS, smartphones, or through a web-based interface. The platform is optimised to support a variety of uses and can easily be adapted to support other mHealth needs.

Medic Mobile also provides a powerful analytics feature that health officials can use as a dashboard to visualise their data. This feature can be used by district healthcare workers or ministries of health to track operational progress, measure impact, spot trends, and make decisions based on accurate, real-time data. It can be accessed from laptops, netbooks, tablets, and smartphones. It is cloud-hosted and works seamlessly with the mobile field reporting tools.

## 4 User Centric Attitudes

The success of Medic Mobile, and their approach to mHealth relies on the input of the people involved in healthcare delivery at every stage of design and implementation. This helps the tools' eventual end users to see them as powerful ways to improve health in their communities. This means that, the wider the participation, the greater the impact is likely to be. This human-centred design in turn sets the stage for greater scale.

The Medic Mobile team works with the communities in which it operates to identify potential solutions and new workflows, exploring ways that its technology platform can lead to faster, more personalised, more accurate, and often less expensive ways of working. This process also identifies possible barriers to implementation of Medic Mobile tools. Overall, this aids the organisation in fulfilling its commitment to building the right tools and developing the right use cases for each user, partner and community served by Medic Mobile. An outline of the process Medic Mobile have created, utilising principles of human-centred design, is shown below.



**Figure 1 - Medic Mobile's Human Centred Design Approach**

the human centred design process enables Medic Mobile to keep refining their base of use cases for the platform, and ensure they keep the roadmap of their product development, staffing and partnerships in line with current needs.

## 5 The Use and Value of Data

Medic Mobile has collected impact data since its initial deployment in 2009. This data is managed and visualised on an internal impact dashboard. Data is used both for internal learning and to help improve tools and services; as well as by partners to manage their health programmes, inform clinical decision making and better support their health workers. Medic Mobile has a full time analytics manager who supports this work, with leadership from the CEO and directors, demonstrating the value that this role plays within the organisation.

The service's data collection capability has matured as overall organisational capacity has grown, allowing it to now collect information on all 54 active projects. In 2014, Medic Mobile began to pay particular attention to impact indicators for four current priorities: (1) to increase coverage for focused antenatal and postnatal care, skilled care during birth, and childhood vaccinations; (2) to increase stock visibility and availability for essential medicines, and protect the cold chain for vaccines; (3) to increase early detection and treatment of infectious disease; and, (4) to increase support for remote health workers.

This data-collecting aspect of the Medic Mobile platform can be used by anyone who accesses, stocks, distributes, and monitors medications in systems where the platform operates. This increases coordination and efficiency, thereby making it easier to get the right drugs to the right place at the right time. For example, clinics and pharmacies can send information to government agencies on a daily basis about dwindling supplies. This data can then be aggregated and displayed on easy-to-read analytics dashboards, providing information that can be used to restock drugs more quickly (often from nearby clinics) and improve forecasting to avoid future stock-outs. Additionally, patients can use mobile phones to notify ministries of health if local clinics have run out, helping to ensure greater accountability. An example of the kind of dashboard that can be delivered using the platform is shown below.



Figure 2 - Example of Medic Mobile Dashboard

Another area in which data brings value to the organisation stems from their ability to showcase their own progress in a data driven way. For example, aggregating insights and metrics across implementations of the platform allows the team to generate a rich annual report, which can be shared with partners and others.

## 6 Success and Scalability

Medic Mobile's impact metrics are essential to the organisation, informing its pathway to scale and guiding its decision-making across the organisation. In addition to the kinds of specific priorities discussed above, Medic Mobile measures its success according to the number of users it has, and the number of people those users cover. These metrics are based on Medic Mobile's historical growth and an understanding of community health worker populations in their priority countries. To date, Medic Mobile works with over 9,000 community health workers with a cumulative coverage of over 5 million people. In line with this, Medic Mobile's success is ultimately defined by its ability to connect partners with the right tools to achieve impact and improve equity within their health system.

Scaling in the future will require a mix of national scale deployments, as well as widespread adoption of the recently-launched DIY download of the platform. Medic Mobile expects to maintain its working relationships with community-based organisations, international NGOs and ministries of health - the focus being to work together to support the maximum number of community health workers possible within their system and supporting their workforce-strengthening activities.

## 7 Partnerships

As discussed above, Medic Mobile values CHWs as key partners in designing and developing all of their tools. This is enhanced by relationships with implementation partners, who are essential for connecting with these users, as well as learning how to best support CHWs. Medic Mobile also works with partners across the health system - ranging from community-based organisations to international NGOs and ministries of health - to deploy a national-scale program addressing several priority use cases.

Technology partners are also essential for effective collaboration. For example, thanks to a partnership

with Mozilla, Medic Mobile released the first community health app for Firefox OS, which is now available in the Firefox Marketplace. On top of this, philanthropic partners have supported Medic Mobile at critical stages of growth and service implementation. This has enabled supporting research and development work, building capacity to deliver and support projects which have subsequently become more self-sustaining, while also helping to support Medic Mobile's capacity to deliver its DIY platform at scale.

When considering partnerships, Medic Mobile aims for a mutual commitment to using its design processes, focusing on solutions that are defined and built in collaboration with CHWs. It also seeks an understanding from prospective partners that an iterative process will lead to a more effective workflow and sustainable program. Strong, productive partnerships are a key element to the Medic Mobile delivery model and will be critical when aiming to support 200,000 health workers covering 100 million people by 2020.

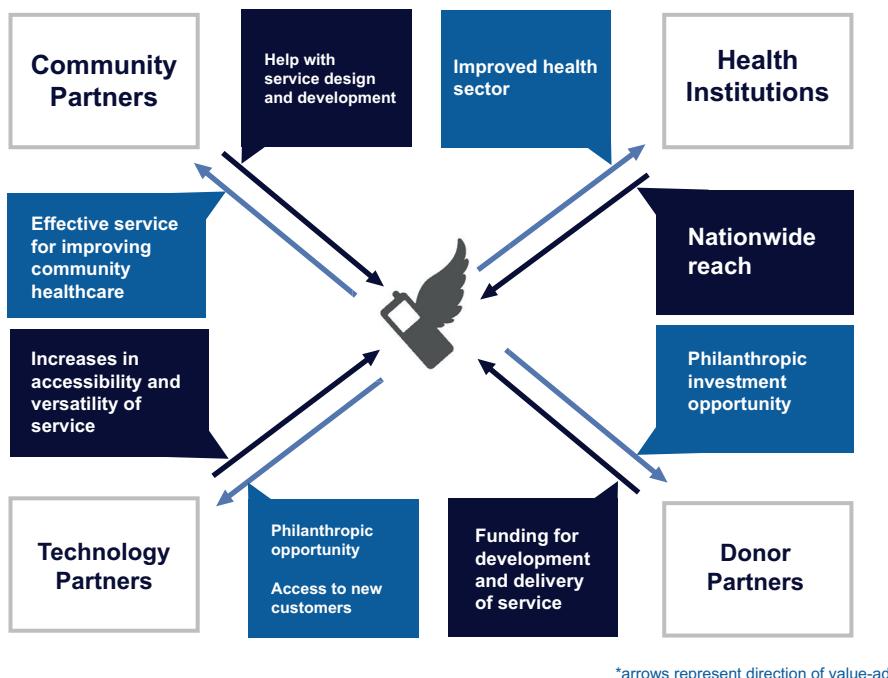


Figure 3 - Partnerships diagram

## 8 Challenges

Medic Mobile's greatest on-going challenge is designing systems that work as effectively and conveniently as possible for its users. The organisation seeks to overcome this by maintaining focus on human-centred design and refining the service's delivery model. In doing so, it can continue to design its product so that any small clinic can use it, based the unique needs of users at these clinics. Nevertheless, in order to scale this model to meet the ambitious targets set by themselves, the Medic Mobile team will have to find new paths and avenues to release their platform to reach a very wide user base of health workers. This is a challenge the organisation has firmly in sight.

## 9 Future Plans

Looking forward, the Medic Mobile team is particularly excited about two specific innovations: a downloadable version of its offline web app and an all-in-one hardware kit designed for last-mile clinics. Both of these innovations will make its most impactful products significantly easier to access

for grassroots organisations and clinics. Building on these and other elements, the organisation has set an ambitious goal of supporting 200,000 health workers covering 100 million people by 2020. To achieve this goal, it must meet a 65% growth rate for its user numbers each year from 2014 onwards.

## About

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