

mHealth Solutions Breaking Barriers to Improve Access to Maternal Healthcare



Source:

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Country:

Malawi [MW]

Sector:

Health

Insufficient and inadequate maternal healthcare is a big issue in Malawi and can have detrimental effects in the hardest to reach and most isolated rural communities. By enhancing the capacity of trusted health workers through mHealth solutions, IICD is working to improve maternal and child health.

In Jombo, a village located in the Chikwawa Diocese (in the remotest part of the southern region of Malawi), villagers must walk 10 kilometres to the nearest health facility – Montfort Hospital. There is an extensive road network but, during the rainy season, villages such as Jombo suffer from unusable road conditions. Furthermore, communication services within and outside Jombo remain a challenge. These bottlenecks create delays for pregnant women in reaching vital healthcare in time. Such delays contribute to Malawi having one of the highest maternal mortality rates in the world: 675 per 100,000*.

IICD, as part of the Connect4Change consortium (C4C), is overcoming these challenges and increasing access to maternal healthcare by improving the quality of home-based maternal care for the most isolated mothers in Malawi.

Through a series of human-centered design practices and IICD's design thinking methodologies (Round Table and Solution Design workshops), better communication with health workers, improved data management and reduction of maternal deaths, were all identified as key targets. After testing potential solutions together with IICD's local technical partner UltiNetS, over 100 community health workers (CHWs) were trained in using the mHealth application, 'CommCare'. With this Java application, the CHWs register pregnant women, and follow up on their antenatal care visits. Subsequently they register the newborns with the same application, and follow up on their first two years vaccinations. Complicated cases can also be registered and followed by the CHWs. The mobile platform is used for reporting, referral of patients to health facilities and to receive feedback from central health facilities, such as hospitals.

"This allows users to track patient data both on mobile devices and on the web. This helps health workers keep track of their clients over time and manage the entire life cycle of a case without the need for network connectivity," said Stuart Winga, Operation Manager at UltiNetS.

Improving communication

Improved communication between health workers and health facilities can have multiple effects, for instance on patient referrals to hospitals. It has proven difficult for home-based care workers and CHWs to arrange appointments with hospitals for the patients they visit. Doing this digitally, with the use of mobile phones, reduces delays and increases reliability. The project in Malawi achieves this in a number of ways. Firstly, by providing real-time communication between different agents in the community health structures, including health centres and front line workers. Furthermore, electronic reports are sent from community health structures to computers at the hospital.

But not everything went off without a hitch. At the outset of the project, some users experienced difficulties to analyse and generate reports using CommCare at health facility level. Due to the importance of data analysis and report generation to monitor progress, identify imaging problems and make decisions, IICD advised to complement this application with a Hospital Management Information System (HMIS). This will allow to capture more data at hospital level, which can help in interpreting the CommCare data. The hospital is in the process of implementing an HMIS, which will improve the analysis of the generated data and help in decision-making. Decision makers can adapt policies based on timely and reliable data.

Results in maternal healthcare

In the Chikwawa Diocese, where over 2,000 pregnant women and infants have been registered as of November 2014, the project is showing promising signs towards the reduction of maternal and child mortality rates, from 4 to 1 and 70 to 40 deaths per year respectively. These ICT-enabled maternal and child health interventions have the



Groups including safe motherhood groups and other community members from targeted areas are briefed on the project to get their approval, inputs and win their support. The participants learn about the aim of the project, how to use mobile phones to collect data and send it to the hospital, and how they will benefit from the safe motherhood training.

full support of the Malawian government. Such alignment of policy has facilitated progress towards shared goals including the increase of timely pregnancy referrals to Montfort Hospital, the promotion of active male involvement in maternal healthcare and the increase of children under five attending monthly clinics.

The Women Health Project in Mangochi Diocese has been targeting women and men of reproductive age and young children in 22 villages under the catchment of Koche Health Centre. Similarly to Chikwawa, the results have shown real progress towards the overarching aims of improving maternal healthcare. More knowledgeable front line workers are providing improved health service delivery and, through the use of mobile phones, women are reminded two weeks before delivery to encourage births in Koche Health Centre.

Community sensitisation: motivating men to participate in women's health

For IICD, the importance of formulating context-specific solutions and multi-stakeholder involvement, including local leaders, is crucial to advocate for the services and assist in mobilising the community. The work of safe motherhood committees and male champion groups has contributed to health promotion and behavioural change in health seeking, and active involvement of men in decision making about women and child health issues. The project has demonstrated that it is possible to motivate men to participate in women's health in a culture where this is regarded as almost impossible. Male involvement has improved throughout the project with more men now escorting their wives to the health clinics. Men have formed male champion groups where they discuss issues of safe motherhood. In Chikwawa there are nine male champion groups, each group consisting of 20 men.

"A woman dies from complications in childbirth every minute – about 529,000 each year - the vast majority of them in developing countries"¹

Malawi: one of the highest maternal mortality rates in the world: 675 per 100,000²

mHealth Solutions Breaking Barriers to Improved Maternal Healthcare in Malawi



Reduction of maternal and child mortality rates: from **4 to 1** and **70 to 40** deaths per year respectively

(in Chikwawa)

Number of women who **attended antenatal 3 times or more:**

(in Mangochi)



"The CHWs are very happy. First because of having the technology itself, as it's always good to learn something new, and also because when they visit the mothers they feel more appreciated because they are communicating directly with the hospitals. They are working harder with these technologies."

Marcpoly (ICT Officer of Mangochi)

HOW IT WORKS:

Module for pregnant mothers

Use: registrations, follow ups, referrals and deliveries, SMS reminders.

Module for children

Use: monitor child health, including vaccinations, disease screening and growth.

Reminders: women are reminded two weeks before delivery to encourage delivery in hospitals.

Complementarity with HMIS

IICD has advised to complement CommCare with a Hospital Management Information System (HMIS) to enable capturing of data at hospital level and improve the analysis of data generated by CommCare. This can help in decision-making and to monitor progress.

Major successes (Since 2011)

- More women attending antenatal clinics
- More women referred to the health facility for delivery in a timely manner.
- Village chiefs are now encouraging their people to go to outreach clinics. More outreach clinics have also been built.
- Male involvement in women's health has improved. Men have formed male champion groups where they discuss issues of safe motherhood. This has played a great role in influencing women to deliver in hospitals.

1. <http://www.unicef.org/madg/maternal.html>
2. Malawi health demographic survey 2010

*Malawi health demographic survey 2010