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...
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”

Malawi: one of the highest maternal mortality rates in the world: 675 per 100,000

mHealth Solutions Breaking Barriers to Improved Maternal Healthcare in Malawi

 Registrations in Chikwawa, Mangochi and Blantyre
(As of November 2014)

1900 pregnant women
1985 infants

Mobile Platform

+100

community health workers (CHWs) trained

Jombo
(village in remotest part of the southern region of Malawi)

Montfort Hospital
(nearest health facility)

10 Km walk
*Malawi health demographic survey 2010*