

Applying m-Health to Improve a Large Scale Maternal and Newborn Health Program in Ethiopia

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Background

Ethiopia has achieved its Millennium Development Goal 4: reduce under-five mortality rate to 67 deaths per 1,000 live births. However, similar to many other countries in Africa, the reduction in neonatal mortality over the past decade has slowed down while the maternal mortality ratio during the same period remained relatively unchanged. At 37 deaths per 1,000 live births, neonatal deaths now account for 55% of all under-five deaths; while maternal mortality ratio in Ethiopia has remained at 676 deaths per 100,000 live births which leads to 19,000 maternal deaths annually. Because approximately 90% of births occur in the home, a community-based approach to maternal and newborn care is essential.

The Bill & Melinda Gates Foundation funded the Last Ten Kilometers Project (L10K), JSI Research & Training Institute, Inc., implements and tests innovative community-based strategies to strengthen the link between the Ethiopia's rural primary health care systems and its beneficiaries to improve maternal, newborn and child health (MNCH) at scale. To achieve its objectives, L10K provides grants and technical support to 12 regional-level civil society organizations (CSOs) in 115 districts in four of the most populous regions of Ethiopia covering about 13 million people.

L10K m-Health MIS Platform

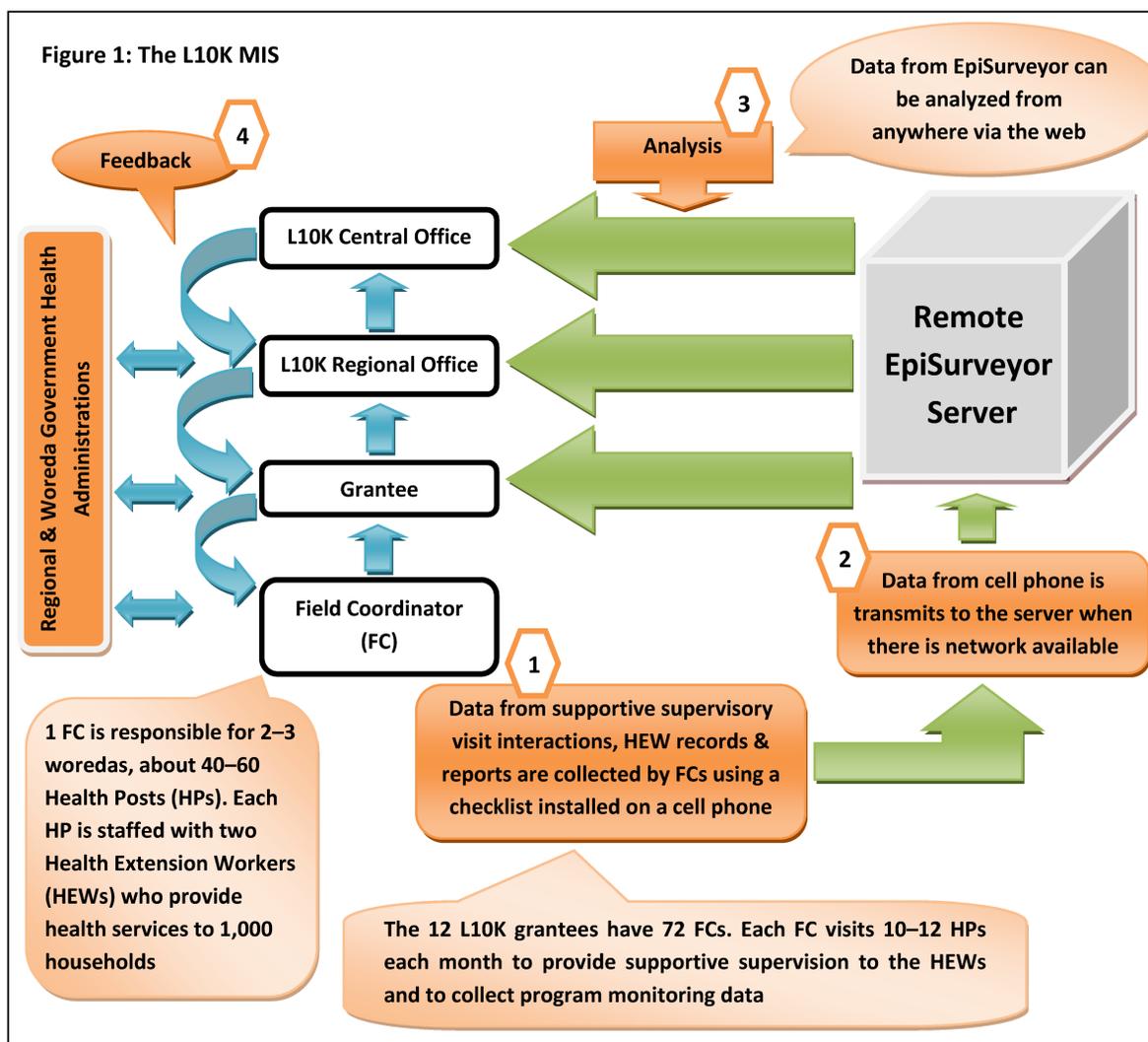
L10K monitors and evaluates the implementation of its community-based maternal and newborn health strategies using the mobile phone-based data collection platform Maggi, formerly known as EpiSurveyor, developed by DataDyne. Eighty field coordinators (FCs) from the CSOs routinely conduct supportive supervisory (SS) visits to about 3,000 health posts every four months. During the SS visits they also observe and obtain vital information on program performance output and outcome indicators. The data gathered from the supportive supervisory visits are aggregated to monitor and evaluate program performance, thus creating the backbone of the L10K management information system (MIS).

The supportive supervision checklist is transformed into a web-based data collection instrument. The data collection tool is downloaded to mobile phones which are used by field officers to collect data during supportive supervision visits. The system allows data collection via smartphones which is transmitted to a remote server via web, allowing data-based decision making as soon as the data are being collected (Figure 1).

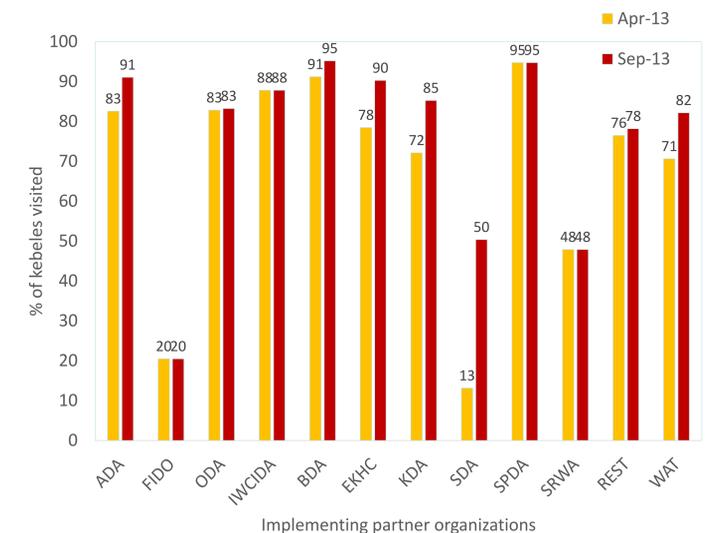
Three health posts are randomly to verify supportive supervisory visits and monitor the quality of data collected.

Results and Lessons Learned

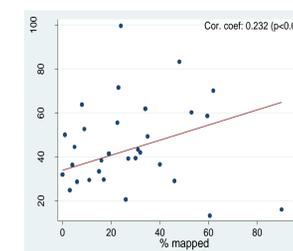
- Online data collection and processing from remote areas of Ethiopia is possible
- The system improved the efficiency of the central, regional, zonal and district-level program managers to make data-based decision making: data utilization cycle reduced from every three months to every month or less
- The implementation and management of the m-Health using MagPi was possible using its existing M&E team members who were not IT specialists



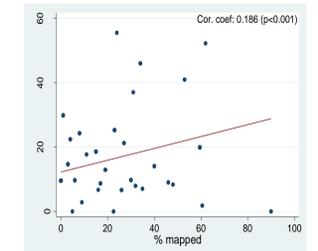
- Coverage of supportive supervision visits increased from 80 to 87% between 2nd and 3rd quarters of 2013



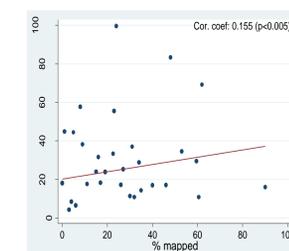
- Improved operations research capability of the project



Positive association between household mapping and pregnancy identification



Positive association between household mapping and HEW assisted deliveries



Positive association between household mapping and postnatal care