Ma Santé

Mobile data collection on malaria and child health indicators in Mali and Senegal

DATA COLLECTION

Implementation date: 2011 to 2014

Malaria is a major public health challenge, particularly in resource-constrained settings. According to the World Malaria Report 2011, malaria is prevalent in 106 countries of the tropical and semitropical world, with 35 countries in sub-Saharan Africa bearing the highest burden of cases and deaths. Many malaria-related deaths are due to limited of knowledge of malaria prevention or detection in advanced clinical stages. In the slums of Yirimadjo, Mali, where malaria treatment accounts for 65 percent of the healthcare demand, various factors have caused unnecessary morbidity and mortality. Pregnant women and children under the age of five comprise the majority of the patients, as they are most vulnerable to malaria. By making regular house-visits to check up on the health of young children and pregnant women in particular, Community Health Workers (CHWs) play a vital role in the screening and prevention of common illnesses such as malaria and diarrhea, and encourage clients to seek care in health facilities.

To better monitor the general health in the community and to map specific disease-prone pocket areas within the community, Dutch NGO International Institute for Communication and Development (IICD) assisted Muso Ladamunen, a local NGO working with CHWs, with the introduction of mobile phones and a mobile app called MAMMA which enables CHWs to more easily and rapidly collect data on health indicators and to improve logistical coordination, clinical communication and health surveillance, particularly of malaria, through the Ma Santé Project.

About Ma Santé

The MAMMA app (Mamans contre le Malaria au Mali) is a simple application based on Frontline SMS (a free text messaging software) and pre-installed on feature phones (low-cost mobile phones with limited web access), which are distributed to the CHWs. The application consists of a questionnaire designed to capture data on various health indicators, including malaria indicators, and is filled out by CHWs during their house visits. The collected data are sent by SMS to a database with a web interface allowing the health centers in the area to monitor the health status of the community on a daily basis and respond when needed. If the health facility determines that a patient needs immediate treatment the facility-based health worker either calls or sends an SMS to the CHW who sent the data. The CHW informs the patient and arranges transportation by calling or texting taxi companies.

All CHWs received training in basic ICT skills and learned how to use the mobile phone and MAMMA application. Professional health workers in the local health center were taught how to access the web-enabled data-base and analyze the data collected by the CHWs, and where needed, received ICT skills training as well.

Evaluation and Results

TA pilot involving 50 CHWs in Yirimadjo, Mali was carried out in 2012, followed by scaling-up to another zone in Bamako, and replication in Fatick, Senegal with the French-Senegalese NGO RAES. Once scaled up, the application is to be used by 300 CHWs reaching out to 300,000 people.

The use of the MAMMA application has a positive effect on the fight against malaria. The results from activities during 2011 to 2013 show the following:

- Use of MAMMA enabled CHWs and health facilities to more quickly detect and refer a suspected case of malaria, thus reducing the response time by 65 percent; health clinics and community associations can respond faster to an outbreak of malaria
- Shorter response time and faster referral resulted in a 25 percent increase of young children receiving treatment within 24 hours
- CHWs worked faster and more efficiently, resulting in a 20 percent increase of number of house calls by CHWs, leading to a 22 percent increase of women sleeping under a treated bed net
- By equipping CHWs with a mobile phone, the communication between doctor and CHW has improved as previously communication could only take place face-to-face
- By collecting data on a large scale in a specific community, health facilities are now able to more quickly detect outbreaks of malaria, enabling them to allocate resources where and when needed most

Lessons Learned

- It is possible to train semi-literate people in basic ICT-skills and the use of particular applications like MAMMA as long as the training takes the capacities of the CHWs into account
- When introducing a new tool, make sure there is a clear benefit for the user directly working with the tool
- Scaling up and maximizing the impact that the tool can have, is dependent on the capacities of CHWs

Conclusion

The Ma Santé Project has so far proven to be successful as it indeed strengthens CHWs' work and allows community health organizations to faster and more easily monitor diseases and allocate scarce resources to where it is needed most. The introduction of the tool in other countries is possible, but careful analysis is needed of the context in which the tool is used. The replication in Senegal showed us, that the tool brings less value, as the CHWs in Senegal are more restricted in what they are allowed to do.

Geographic Coverage: Yirimadjo, Mali and Fatick, Sengal

Implementation Partners: Muso Ladamunen (Mali), Sikoroni (Mali), RAES (Senegal), IICD (The Netherlands), Orange (France), Orange Mali (Mali)

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