

# mHealth for Safe Deliveries in Zanzibar

## Brief Overview

More than 1,000 women die every day in the developing world as a result of complications in childbirth. High rates of maternal illness and death are found in the Zanzibar archipelago of Tanzania, where half of all births still take place at home, far from skilled care. Post-delivery, only one-third of Zanzibari mothers and newborns receive post-natal check-ups within 42 days after birth, locking them out of opportunities to access post-partum care and infant vaccinations.



With funding from the Bill and Melinda Gates Foundation, D-tree International is focused on preventing maternal deaths by identifying pregnant women who need a higher level of health care and subsequently linking them to local health facilities.

In collaboration with the Zanzibar Ministry of Health and Social Welfare (MOHSW), this D-tree project puts mobile phones with a pregnancy screening and care application in the hands of lay community health workers to assist them in reducing the many barriers to safer child birth services and post-partum care for mothers. These community health workers, called traditional birth attendants (TBAs), screen and refer high risk pregnant women to health facilities.

The project began in November 2011 with the purpose of reducing maternal deaths by providing a safety net for mothers who deliver at home and removing the logistical and financial barriers to safe births and post-partum care for mother and child.

### ■ Geographic Coverage:

Zanzibar, Tanzania

### ■ Implementation Partners:

D-tree International is leading a team of partners which include:  
Etisalat | JHPIEGO | Zanzibar Ministry of Health and Social Welfare

### ■ Funder:

**Bill and Melinda Gates Foundation**

### ■ For More Information Contact:

**Bill and Melinda Gates Foundation**

- **Ken Warman;**  
Email: [Ken.Warman@gatesfoundation.org](mailto:Ken.Warman@gatesfoundation.org)

**D-tree**

- **Marc Mitchell, President;**  
52 Whitney Tavern Road, Weston, MA 02493  
Tel: +1-617-432-6322; email: [mmitchel@hsph.harvard.edu](mailto:mmitchel@hsph.harvard.edu)

## About mHealth for Safe Deliveries

In accordance with MOHSW care guidelines, D-tree developed a mobile phone-based clinical algorithm that takes TBAs step by step through a screening process to identify pregnant women who are high risk or have any danger signs during pregnancy and labor. These algorithms, running on java-enabled Nokia phones, assist TBAs to: register pregnant women; screen the women for risks; develop birth plans with the women; and encourage the women to deliver at a facility.

For high risk women who need the level of care only offered at a health facility, the mobile phone application is programmed to help the TBAs contact an emergency driver, record the family's permission for emergency transfer, and identify the closest health facility. TBAs call the clinic to alert them that an expectant mother is on the way. Working with Zantel, a local mobile service provider, D-Tree also built mobile banking accounts for each TBA into the system to pay for emergency transport and appointments.

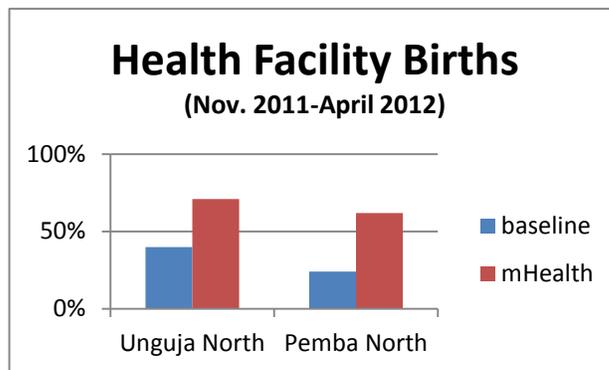
Additional phone-based algorithms assist the same TBAs to screen mother and newborn within two to five days after childbirth to ensure that they get the essential health care services that are so critically needed at this point in their lives.

## Evaluations and Results

Traditional birth attendants in two districts of Zanzibar were trained to use the application. During the pilot implementation period of November 2011 to April 2012, TBAs successfully registered 682 pregnant mothers, 211 of which delivered during this period. Of the 211 mothers who delivered, 143 (68 percent) gave birth in health facilities during the pilot compared to only 34 percent prior to the project. In North A, 90 (71.4 percent) of the 126 births occurred in a health facility, and in Micheweni, 53 (62.3 percent) of the 85 births occurred in a health facility.

As of July 2012, a total of 629 registered women have delivered healthy babies since the beginning of the program, and a striking 70 percent of these births have taken place at a health facility.

## Comparison of the child births in health facilities before vs. during the pilot



In addition, TBAs reported the following results from the use of the phone based tools: improved general knowledge (31percent); improved knowledge about danger signs (27 percent); and better understanding of the importance of obstetric history (14 percent).

## Lessons Learned

- As trusted community members, traditional birth attendants and other community-based health workers are well placed to reach women with essential information.
- Local resources, (in this case, taxis), can effectively be utilized without having to buy new vehicles through strong coordination and communication between TBAs, local leaders, and taxi drivers.

## Conclusion

The project provides evidence that women who normally would have delivered at home can be convinced to deliver their babies at health facilities if given adequate information from a trusted resource. A front line health worker in the community can provide excellent counseling and identify danger signs if supported by good tools.

### Information was excerpted from:

Mitchell, Marc et al. March 2012. Reducing Maternal Mortality: mHealth for Safer Deliveries in Zanzibar. D-tree International. <http://www.globalgiving.org/projects/safedelivery/>  
Cell Phone Based Protocols for Safer Childbirth Enable High Risk Pregnant Women to Access Care at Health Facilities. D-tree International.