

Reducing maternal and child mortality in Zanzibar: Wired Mothers



The majority of maternal deaths in Zanzibar occur during childbirth and the immediate postpartum period. The major direct causes of maternal mortality include haemorrhage, pregnancy-induced hypertension, obstructed labour, infection and unsafe abortion. Neonatal mortality is estimated at 29 per 1000 live births, infant mortality at 54 per 1000 live births and mortality in children under 5 years old at 73 per 1000 live births (1). About 50% of all babies are delivered at home with unskilled attendants. Although antenatal care (ANC) coverage is high in Zanzibar – 98% of pregnant women make at least one visit during pregnancy – many women do not attend the recommended four ANC visits and use of maternal health services is low (2). Major challenges to reducing maternal, newborn and child mortality include limited access to quality health services, a weak referral system and poor health-seeking behaviour among women.

The aim of Wired Mothers is to link women to health-care facilities during the vulnerable period before, during and after childbirth. It consists of two components: an automated short messaging service (SMS) system with one-way messaging, and an emergency call system to allow direct two-way communication between “wired” pregnant women and their health-care providers.

Wired Mothers was one of the first mHealth interventions to undergo evaluation through a cluster randomized controlled trial. The study found an increase in the number of women receiving the recommended four ANC visits during pregnancy, in urban women delivering with skilled birth attendants, as well as a reduction in perinatal mortality (3).

How Wired Mothers works

Wired Mothers provides SMS reminders encouraging women to attend routine ANC appointments, use skilled birth attendants and access postnatal care. During the first ANC visit, health workers collect basic information from patients, such as gestational age and mobile phone number, and enter it into the web-based system. Customized software automatically sends text messages to enrolled women throughout their pregnancy and until six weeks after delivery. The frequency and content of the messages varies according to the women’s gestational age and the outcome of her pregnancy.

A separate two-way communication system allows Wired Mothers to talk directly with a health-care provider and access emergency obstetric care. Selected health-care facilities are provided with dedicated mobile phones that can be reached using a toll-free number if women experience a complication during pregnancy or delivery.

Supporting national public health programming

Improving maternal and neonatal health is a high priority in Zanzibar. Wired Mothers is an integrated part of the national Reproductive and Child Health Programme, which is the responsible administrative unit in the scale-up process. The software is integrated into the existing health management information system (HMIS), and the HMIS unit is responsible for maintaining it. The Reproductive and Child Health unit collaborates with the District Health Management Teams (DHMTs) to implement Wired Mothers in their respective districts. A phased approach has been





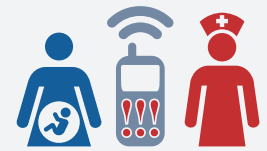
Wired Mothers links pregnant women and new mothers to critical health services



Pregnant women enrol during their first ANC visit



Automatic SMS messages are customized to women's particular situation



Women can also contact the nearest health-care facility with delivery services directly in case of an emergency

adopted to allow revisions based on feedback from users and to ensure quality of care. DHMTs are responsible for routine monitoring and supervision.

Partnerships for support and sustainability

A central strategy of the national scale-up is to ensure sustainability through the integration of Wired Mothers into the national health system and through a public–private partnership with Zantel. Recurrent costs not covered by the public–private partnership are included and funded in the annual district health plans and annual programme of work. Technical support and scientific evaluation are provided by the University of Copenhagen and disseminated in peer-reviewed journals for the general benefit of policy-makers in developing countries. In addition, Wired Mothers will be made available via open-source software for use by other developing countries.

IWG catalytic grant for mHealth programme scale-up

Wired Mothers was awarded a grant to scale up the SMS programme in Zanzibar by the United Nations Innovation Working Group's (IWG's) catalytic grant competition for maternal, newborn and child mobile health (mHealth), managed by the United Nations Foundation. Wired Mothers was successful in the grant competition because it employs an effective delivery strategy for an evidence-based maternal health intervention, combined with creative financing strategies to promote sustainability – elements that are critical for mHealth tools to contribute to Millennium Development Goals 4 and 5.¹ Through IWG, Wired Mothers is receiving assistance from the

¹ MDG 4 is to reduce child mortality; MDG 5 is to improve maternal health (www.unmillenniumproject.org/goals/gti.htm)

References:

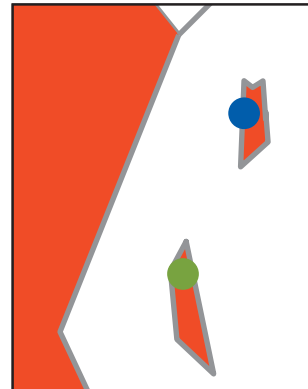
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Credits:

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Zanzibar

- Number of health-care facilities where women can enrol in Wired Mothers
- Number of health-care facilities that respond to direct calls from Wired Mothers
- Number of pregnant women (reached or targeted)

Number of facilities and individuals currently reached:

Unguja Island

12 3 3824

Pemba Island

23 4 5012

National data: current coverage (September 2014)

2 districts
35 facilities
8836 pregnant women/year

Targets for 2015: coverage across 10 districts

10 districts
158 facilities
62 000 pregnant women/year

World Health Organization's Department of Reproductive Health and Research to optimize scale-up of the SMS programme while contributing to the mHealth evidence base and best practices on implementation and scale-up. Please visit <http://www.who.int/reproductivehealth/topics/mhealth/en/> or <http://www.unfoundation.org/features/mhealth/iwg.html> for more information.

Partners: Zanzibar Ministry of Health, Zantel, University of Copenhagen

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