



Mobile Ultrasound Patrol

Early Detection Of At-Risk Pregnancies Through The Use of 3G Technology

Every day, around the world, approximately 800 women die from preventable causes related to pregnancy and childbirth. Of those deaths, 40 percent are due to injuries or conditions related to placenta complications.¹ The only way of detecting abnormal placenta challenges is through an ultrasound. The Mobile Ultrasound Patrol is a program that seeks to improve care for women in emerging regions through early detection and treatment of major causes of maternal mortality. The medical examinations took place in three villages in Morocco — Oulmes, Boulemane and Ribat el Kheir — with reading physicians providing diagnoses in city centers in Morocco and France.

MOROCCO

2015 Statistics*

Population (est.)



Life Expectancy



GDP Per Capita (est.)



Mobile Penetration



Challenge

- Every day, approximately 800 women globally die from preventable causes related to pregnancy and childbirth.
- Maternal mortality rates are higher among women living in rural areas and among poorer communities.
- Morocco is one of the nine countries in the World Health Organization Eastern Mediterranean Region to have adopted a national plan to accelerate progress on maternal and child health.²
- One of the most common reasons for maternal deaths is postpartum hemorrhage due to retained placental fragments (women dying during or within hours of giving birth due to heavy bleeding caused by placenta complications).
- Ensuring healthy lives and promoting the well-being for all ages is Goal 3 of the United Nations Sustainable Development Goals, with a specific focus on both maternal and child health.

Solution

- The Mobile Ultrasound Patrol program provides participating doctors and nurses with backpacks containing devices that are wirelessly connected to specialists in hospital clinics to ensure far reaching, high quality diagnostics.
- Patients, nurses and doctors access the system via mobile devices such as smartphones and phablets (phone – tablet).
- Images are captured with a Sonosite portable ultrasound device called the M-turbo.
- The images are wirelessly transmitted via WiFi through a dongle to a wireless-enabled Sony smartphone or tablet with a pre-installed application for encryption of medical data called DICOM.
- The images are transmitted from the mobile device via the 3G mobile network to a cloud-based image management platform provided by Trice Imaging Inc.
- The images are made available on a secure Internet landing zone. A link to the images is automatically routed to the reviewing physician via an encrypted email.
- The reviewing physician logs into the system on a phablet to review the images and complete a report.

*Sources: CIA World Factbook (<https://www.cia.gov/library/publications/the-world-factbook/>); Mobile penetration data provided by Ovum World Cellular Information Service and based on market intelligence.

Impact

98%

High Clarity Rating

A total of 575 exams including 3,108 images were wirelessly transmitted through 3G technology, with clinicians giving the ultrasounds a 98 percent perfect clarity rating.



Early Detection

94 of the exams exposed potential at-risk pregnancies.



Second Opinion

158 patients were flagged for a second opinion.



Advanced Wireless

The use of advanced wireless technology led to:

- Shortened diagnostic review or second opinion time from two weeks to fewer than 24 hours.
- Reduced cost of a medical diagnosis from \$80 to \$2 per patient.
- Shortened transportation time of the medical data for review from four days to two seconds.



More Births at Clinics

Participating physicians also reported an increase in the number of patients seeking care at the health houses after the trial. The number of deliveries in these facilities increased, which is an important step in reducing the number of dangerous at-home births.



Plans to Scale

The Government of Morocco has committed to scaling this program to an additional seven health houses, for a total of 10, over the next year, expanding this program to more women who need it most.

Program Stakeholders



¹ World Health Organization, CIA World Factbook 2013 and ITU report 2011 Facts and Figures, <http://www.who.int/mediacentre/factsheets/fs348/en/>

² World Health Organization, Morocco Maternal Health Report <http://www.who.int/features/2014/morocco-maternal-health/en/>

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