OVATE   EVALUATE
ALE UP   IMPROVE
ALTH   RESEARCH
ALUATE   SCALE UP
PROVE   INNOVATE
ALUATE   SCALE UP
PROVE HEALTH

Innovations **CATALYST**
Innovate•Evaluate•Scale up•Improve health

Assisting community health workers in Rwanda
MOH's RapidSMS and mUbuzima

The Ministry of Health (MOH) of Rwanda has made remarkable gains in maternal and child health. The maternal mortality ratio has been reduced from one of the world's highest in 2005 at 750 deaths per 100 000 live births down to 487 in 2010, and the under-5 mortality rate has been reduced by half during the same period *(1,2)*. To achieve these results, national policy has focused on improving community-level health care through community health workers (CHWs). Approximately 45 000 CHWs have received training in how to monitor and promote maternal and newborn health, identify potential risks and promote antenatal care at health-care facilities. However, these CHWs often work in remote areas, without communication tools.

To strengthen community-level and facility-based maternal and child health interventions, the Rwanda MOH, in partnership with UNICEF, has launched an mHealth system – comprising RapidSMS and mUbuzima – to track pregnant women and newborns, promote early detection of life-threatening emergencies, and facilitate reporting on community-level indicators relevant to Millennium Development Goals 4 and 5.[1]
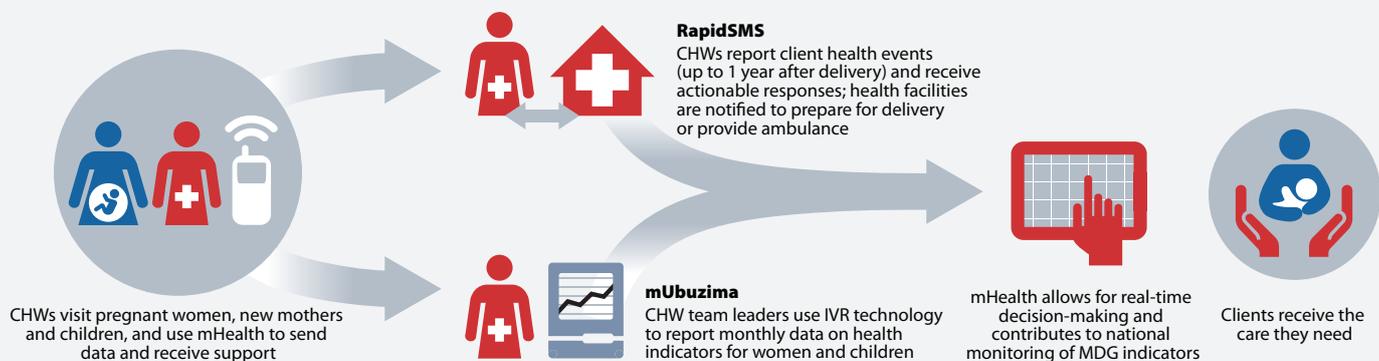
How RapidSMS and mUbuzima work

The first component of Rwanda's mHealth system, RapidSMS, provides a simple text-messaging tool that CHWs can use to conduct routine surveillance of health events during the course of a woman's pregnancy, delivery, and for the first year of her infant's life. Automated, actionable responses are sent to CHWs when reported events indicate risk, or when antenatal care visits or deliveries are due. Similarly, health facilities are notified to prepare for an anticipated delivery and/or to provide ambulance transport. The second mHealth component, mUbuzima, uses interactive voice response (IVR) technology to enable CHW team leaders in each village to submit data on a monthly basis relating to indicators for case management of sick children, nutritional status, vaccinations, supervision, maternal health and deaths at home. Together, these two components facilitate real-time decision-making through the aggregation of data into charts and dashboards, and contribute to the national monitoring of the MDG indicators for maternal and child health.

Supporting national public health programming

As part of the Government of Rwanda's tremendous effort to reduce maternal and newborn deaths, it has launched several major initiatives to provide basic health services to women and children. These initiatives include Emergency Obstetric and Newborn Care (EmONC), Integrated Management of Newborn and Childhood Illnesses (IMNCI), and Integrated Community Health Packages. The MOH's mHealth system strengthens these innovative programmes by equipping CHWs with tools to better monitor and respond to health events and better connect women and children with health facilities. MOH monitoring data for Musanze District for the year immediately before and after the mHealth pilot project began (June 2010) indicated positive results: an increased proportion of facility-based deliveries, an increased number of first antenatal care visits, and reduced numbers

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

World Health Organization

mHealth Alliance

RapidSMS
CHWs report client health events (up to 1 year after delivery) and receive actionable responses; health facilities are notified to prepare for delivery or provide ambulance

mUbuzima
CHW team leaders use IVR technology to report monthly data on health indicators for women and children

CHWs visit pregnant women, new mothers and children, and use mHealth to send data and receive support

mHealth allows for real-time decision-making and contributes to national monitoring of MDG indicators

Clients receive the care they need

of newborn, infant, child and maternal deaths. In addition to providing CHWs with decision-making support and contributing to surveillance, the mHealth system also supports capacity development, ensuring that district- and national-level health officers use data to inform their plans and decisions for community health.

Partnerships for support and sustainability

Implementation of the mHealth system has necessitated the formation of partnerships across multiple sectors of government as well as with donor agencies, implementing organizations and private sector partners. While the MOH provides overall guidance, strategic direction and a budget allocation for the project, other partners have supported the continued development of the mHealth system. UNICEF initiated the mHealth system by providing funding, technical support and maintenance assistance. Management Sciences for Health (MSH) has provided technical support for training. In addition, mobile network operators have provided reverse billing systems and discounted rates on text messages to allow the Government to pay for SMS communications for CHWs and to support programme costs at scale.

IWG catalytic grant for mHealth programme scale-up

The Rwanda Ministry of Health was awarded a grant to scale up the use of mHealth for community health workers in Rwanda by the United Nations Innovation Working Group's (IWG's) catalytic grant competition for maternal, newborn and child mobile health (mHealth), managed by the mHealth Alliance. The Rwanda MOH's mHealth system was successful in the grant competition because it employs an effective delivery strategy for evidence-based maternal and child health interventions, combined with creative financing strategies to promote sustainability – elements that are critical for mHealth tools to contribute to Millennium Development

Rwanda

North
2741   3326

West
3622   976

East
3785   2376

South
3512   880

Kigali City
1177   31

CHWs trained and using mHealth (by February 2013)

Pregnant women reached by the mHealth system (in January 2013)

Goals 4 and 5. Through IWG, the Rwanda MOH is receiving assistance from WHO RHR to optimize scale-up while also contributing to the mHealth evidence base and best practices on implementation and scale-up.

Assistance: The project receives a grant from the mHealth Alliance; and specialized research assistance from WHO's Department of Reproductive Health and Research.

Partners: UNICEF, Management Sciences for Health

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1. *Rwanda Demographic and Health Survey 2005*. Calverton, MD, National Institute of Statistics of Rwanda and ORC Macro, 2006.
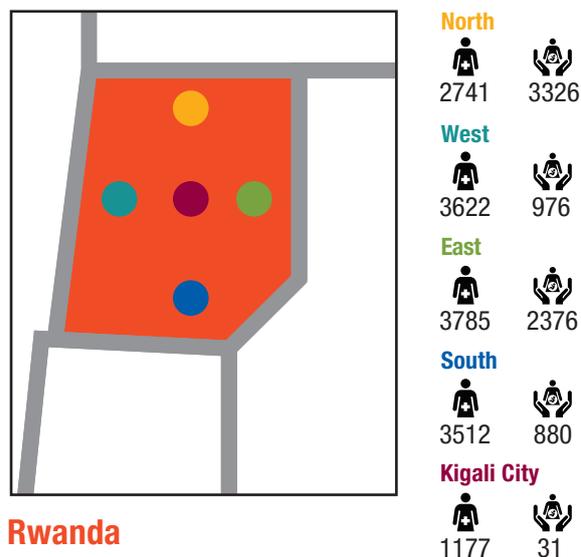2. *Rwanda Demographic and Health Survey 2010*. Calverton, MD, National Institute of Statistics of Rwanda, Republic of Rwanda Ministry of Health and ICF International, 2011.