

## Mobile phones connecting efforts to tackle infectious disease

For more on the UNF-VF Partnership and mHealth see <http://www.unfoundation.org/press-center/publications/mhealth-for-development.html>

For more on the Rockefeller Foundation eHealth conference see <http://www.ehealth-connection.org/>

With 2.2 billion mobile phones in developing countries, mobile technology can be used to detect and respond to disease outbreaks and improve public health and health care. Now, the mobile health (mHealth) Alliance—a partnership between the Rockefeller Foundation, the UN Foundation, and the Vodafone Foundation—is beginning to connect individuals, projects, and national and international agencies, to make the most of mHealth.

In 2008, the Rockefeller Foundation initiated a conference series on technology and health—one key element, cohosted by the UN Foundation and Vodafone Foundation Partnership (UNF-VF Partnership), was on mHealth. Subsequently, the mHealth Alliance was born at the GMSA Mobile World Congress in Barcelona, Spain (Feb 17, 2009). Claire Thwaites, who heads the UNF-VF Partnership, told *TLID* that the three founders have “committed to funding for 1 year to incubate the Alliance, before it becomes an independent legal entity”. This year, the Alliance is already “kickstarting activities and engagement with broader stakeholders”, continues Thwaites.

Karl Brown (Rockefeller Foundation, New York, NY, USA) reckons that large-scale projects should be ready by then. One such project, commissioned by the UNF-VF Partnership, is

DataDyne.org’s open-source program, EpiSurveyor, which uses personal digital assistants to collect public health data. Starting with measles immunisation coverage, the program has been piloted in Kenya and Zambia, and will roll out to 22 sub-Saharan African countries by the end of 2009. “This will extend the links and communication between WHO and health ministries”, says Thwaites, “health-care workers can alert and act in real time.”

Other projects focus on education and health promotion. Text to Change, a Dutch non-governmental organisation (NGO), has developed short message service (SMS) quizzes on HIV/AIDS in Uganda, with prizes of free air time and mobiles. “So far the programme has been associated with a 40% increase in HIV testing”, says Thwaites, “it’s so simple, but it’s been so effective in encouraging people to take action.” Patricia Mechael (Millennium Villages Project, Columbia University, New York, NY, USA) notes that “there are a number of informal and formal ways that people are capitalising on increasing access to telecommunications networks and technologies. SMS is used to remind patients to take medications or book appointments, for example. A key challenge is to move from pilot projects to national scaleable projects, says Mechael.

In the coming year, says Mechael, many bottom-up approaches, mostly aimed at data collection and decision support for local health workers, will begin to scale up to national level. Secondly, “platforms at the top will filter down”. The next step, she says, is to engage governments and national ministries to decide how mHealth can fit national objectives, especially those targeted at Millennium Development Goals. In addition, partnerships must be formed between governments, with technologists, NGOs, academia, and industry. Brown also urges: “now

that connectivity is no longer a hurdle, providers can and must work together to build integrated, interoperable systems, before the world ends up with a mishmash of incompatible efforts”.

The way forward is “smart globalisation”, says Brown, pointing to the Mekong Basin Disease Surveillance Network as a hallmark example: “people with different skills, speaking different languages, and reporting to different hierarchies now enjoy new ways of working together on shared information communication technology platforms”.

The Alliance partner InSTEDD (Innovative Support to Emergencies Diseases and Disasters) is developing open-source communication solutions that can be adapted to local needs. Eric Rasmussen (InSTEDD, Palo Alto, CA, USA), explains that for communication with remote villages, SMS-based group messaging (GeoChat) is replacing alerts previously sent via boats and bicycles and also allows community health workers live participation with rapid response teams. Then, their Mesh4x synchronisation tool allows response teams to share data from different applications via mobile phones plugged into laptops. Currently, the WHO Global Outbreak Alerting and Response Network is also testing InSTEDD mobile technology to collect global data and identify potential new threats with cognitive analytic tools. Automated suggestions, hypotheses, and probabilities can be reviewed by a human decision maker, then a pre-identified team can be alerted by SMS “to get further opinions from the best people around the world wherever they are”, says Rasmussen.

“This year feels like a tipping point for using mobile phones for health”, says Thwaites. “They won’t solve diseases, but they will help health-care workers to tackle diseases.”

Kelly Morris



Joel Selamkio, DataDyne.org

2007 Zambia measles vaccination coverage survey with EpiSurveyor