In Search of Scalable mHealth Solutions

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The use mobile phones and other wireless technologies for the promotion of public health and clinical practice has garnered widespread attention in the past year, largely due to the rapid uptake of the devices within the general population and the migration of software applications from computers and PDAs to mobile phones. However, to date, there have been few examples of successful national-level scale implementations of mHealth initiatives and applications. Through an intensive review of the literature on mHealth and other mobile phones for development programs (such as mBanking and the use of mobile phones for citizen media), this presentation aims to better understand the factors that have led to the success of some programs and applications and hindered the progression of others.

The questions that are frequently raised during discussions about mHealth often relate to scalability and sustainability of relevant services and applications. Increasingly there are examples of both, in large part because there is now a critical mass of users both within the health system and the general public. Governments are interested in its potential for creating efficiencies and improving health outcomes, while the mobile phone industry is searching for revenue generating mHealth solutions. As observed in other reviews, many of the examples of applications are in the pilot stage and have yet to be implemented or evaluated on a significant scale. mHealth initiatives that have been implemented at scale maximize the benefits of personal devices and provide services that extend to both health professionals and the general public through basic handsets and with limited software requirements. More sophisticated applications for health workers are under development and testing, but the factors needed for their scale up and sustainability are often more complex and require a multi-sectoral team-based approach to create the climate needed for generating the desired outcomes of success. In order to test and scale up mHealth initiatives, working with a broad range of stakeholders will be critical. These include, but are not limited to National and District Level health and technology managers, policy-makers and donors, academic institutions, and NGOs and other implementing partners.

The Rockefeller Foundation has recently focused on eHealth, particularly promoting ICT use to improve the health of the poor. The foundation hosted a series of weeklong meetings from July 13 to August 8, 2008 at its Bellagio Center in Italy, "Making the eHealth Connection: Global, Partnerships, Local Solutions," with a week specifically focused on mHealth and mobile telemedicine. The goal of the conference was to support eHealth initiatives through collaborative funding, design, and implementation of eHealth systems throughout the Global South. Background papers and presentations covered key themes such as the path to interoperability, public health informatics and national health information systems, health informatics and eHealth capacity building, access to health information and knowledge sharing, mHealth and mobile telemedicine, electronic health records, national eHealth policies, and unlocking eHealth

markets. The weeklong session on mHealth and mobile telemedicine, coordinated by the UN Foundation and Vodafone Group Foundation, set forth recommendations that have the potential to significantly advance the field of mHealth. These include the creation of an mHealth Alliance as well as the incubation of four scalable mHealth systems; Commcare (a support tool for CHWs), mDoc (a mobile telemedicine clinical decision support system), BreakOut (a global disease surveillance system), and tools for positive living and wellbeing.

Based on intensive on-going review of mHealth initiatives and discussions with a broad range of stakeholders, it is recommended that key mHealth stakeholders consider focusing their next steps on catalyzing the testing and scale up of interventions that show promise in achieving key health outcomes as laid out by the Millennium Development Goals for health. The WHO and other key partners should serve as conveners of key partners and broker of mHealth strategies, information, and evaluation frameworks. A 'test case project' ought to be designed in a way that specifically brings together various stakeholders (technology companies, donors, insurance brokers, health professionals, and social scientists) for a focused project with a specific and measurable goal. The Millennium Villages Project, through its partnership with Ericsson and the mobile operators MTN and Zain provides a laboratory where mobile-phone- based interventions to address keys priorities and challenges in achieving the MDGs for health (beginning with maternal and child health) have been identified and are being tested and implemented in a broad range of contexts in 10 countries in Africa. Applications and approaches are ultimately tailored to each individual country context. Through a process like this, trends and considerations that may be similar across countries (cultural, regulatory, and financial) are being revealed. Through intensive targeted research and documentation- this will ultimately lead to the creation of a model and lessons learned for how others might approach similar integration processes.

Healthcare policymakers and administrators must equip themselves with the knowledge needed to shift from small pilot programs to standardization and scale up. This can be achieved by providing appropriate technology solutions and training in e- and mHealth at a scale through which realistic benefits will be achieved. This updated mHealth presentation, given the rapidly changing field, is one of many steps towards initiating a dynamic dialogue among a broad range of industry, academic, policymaking, government, and non-government civil society partners that will enable these leaders to consider their roles in forging a strategic direction in mHealth.