m-Health: Evidence and Best Practices

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Based on: mHealth for Development: The Opportunity of Mobile Technology for Healthcare in the Developing World (UN Foundation - Vodafone Foundation Partnership, 2009).

Due to the rapid increase in mobile phone usage and service coverage, there is a developing interest on the potential use of mobile communication to improve health care services even in remote and less resourced settings. Mobile communication offers an effective means of bringing health care services to developing countries. With low-cost handsets and the penetration of mobile phone networks globally, several millions of citizens that never had regular access to a fixed-line telephone or a computer now use mobile devices as daily tools for communication and data transfer. 64% of all mobile phone users can now be found in the developing world[(1)]. Furthermore, estimates show that by 2012, half of all individuals in remote areas of the world will have mobile phones. This growing ubiquity of mobile phones is a central element in the promise of mobile technologies for health.

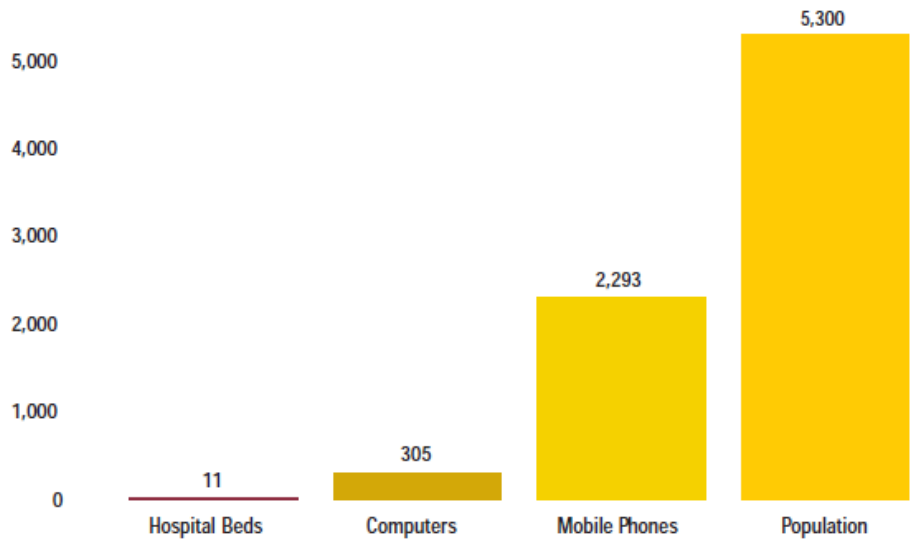

Figure 1. Technology and health-related statistics for developing countries(millions)[(2)].

m-Health has emerged as an important sub specialty of e-Health with the working definition of 'using mobile communications - such as PDAs and mobile phones - for health services and information'. As such, m-Health's scope and implementation, the health needs to which m-Health can be applied and the m-Health applications vary to a great extent from country to country and region to region. Although still at its early stages, it has already begun to transform health delivery even in the developing world, demonstrating sustainable benefits in increased access to health-related information, improved ability to diagnose and track diseases, expanded access to continuing medical education and training for health workers.

An increasing number of developing countries are using mobile technology to address health needs. The m-Health field is remarkably dynamic, and the range of applications being

designed is constantly expanding. The key applications for m-Health in developing countries are:-

- Education and awareness
- Remote data collection
- Remote monitoring
- Communication and training for health care workers
- Disease and epidemic outbreak tracking
- Diagnostic and treatment support

Research shows that mobile technology improves the efficiency of health care delivery, and ultimately makes health care more effective[3,4]. The long-term goal, and expectation, is that m-Health programs will have a demonstrable and significantly positive impact on clinical outcomes such as reduced infant mortality, longer life spans and decreased contraction of disease[5,6,7].

Following are the best practices that collectively form the building blocks of successful m-Health implementations[8].

Forge strong partnerships: Partners from multiple sectors bring diverse strengths to the project. Ensuring that each partner advances its organizational goals through the project paves the way for successful future collaborations.

Be accessible: Communication is more effective when tailored to specific social, ethnic, and demographic groups. Colloquial language and references to pop culture may be effective in reaching teenagers, while older populations may prefer a more formal approach.

Design with the end user in mind and maintain a focus on usability: Applications and devices must take the users work environment into account in the design phase. In the m-Health environment, ease of use is essential.

Build a long-term funding plan: Continuing the project beyond the initial seed funding can be accomplished by aligning with long-term national health goals. Integration with the national health care program of the country of operation is essential.

Set measurable goals: By setting interim goals and benchmarks, m-Health projects can provide proof of success, allowing them to secure support and funding for expansion. Setting measurable goals also helps project principals to identify the need to quickly correct a particular course of action in the event that interim targets are not met.

Collaborate with other m-Health organizations: With many projects currently operating, the m-Health field is now in a strong position to move forward by sharing techniques and applications. Organizations such as the Open Mobile Consortium are facilitating the ability of the field to move forward by sharing best practices.

With the number of projects implemented and proven benefits, all trends indicate that investment will continue and m-Health projects will be an important component of the health care sector in future. At the same time, technological innovations will bring enhanced benefits, particularly in the areas of data collection, patient monitoring and remote diagnostic

and treatment support, where application development is already proceeding at a very high speed. Documented results in both the developed and developing world reveal that mobile technology improves the efficiency of health care delivery. The next stage in the evolution of the m-Health field is to increase the scope and scale of operations.

According to the *m-Health for Development* report, to accelerate this momentum and fully unleash the potential of m-Health applications, dynamic multi-sector collaboration between groups as diverse as governments, multilateral organizations and the private sector, is needed. Joint action should be directed toward the creation of a global m-Health infrastructure that lays out common standards and guidelines and serves as a repository for shared resources and best practices. This is the best approach for scaling m-Health solutions and maximizing the field's capacity to serve a vital development imperative.

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