Barriers and Gaps Affecting mHealth in Low and Middle Income Countries: Policy White Paper

Introduction
In November 2009, The Center for Global Health and Economic Development at The Earth Institute, Columbia University conducted a study with the support of the mHealth Alliance to investigate the research and policy barriers and gaps affecting mobile health (mHealth) in low and middle-income countries (LMICs).

Methodology
A targeted review of peer reviewed and gray publications was conducted on six databases (JSTOR, Medline, PubMed, Scholars Portal Science, Scopus, and Web of Science), using keywords that reflected seven mHealth thematic areas: treatment compliance, data collection & disease surveillance, health Information systems, point-of-care support tools, disease prevention & health promotion, telemedicine and emergency medical response, with a focus on studies from LMICs and high-income countries where the former was not available. This was complimented by a roundtable discussion of the results at Columbia University in March 2010 and a virtual review by 24 mHealth experts.

Results
2,449 articles were identified, of which 165 were chosen for further analysis. The authors found that significant literature existed on mHealth that illustrated proof and appetite for the technology. However, few studies demonstrated the type of evidence required to stimulate policy development at national and international levels. The critical mass of studies were designed as pilot projects (21%), randomized control trials (17%), descriptive investigations (21%) or qualitative assessments (13%), with 85% of studies overall yielding sample sizes under 1,000 being conducted on average for 1 to 3 months. Most studies measured efficiency, adoption and technical metrics, in comparison to health outcomes. Six critical policy-related barriers and gaps were identified: coordination, infrastructure, standardized architecture, interoperability guidelines and metrics, patient and data security, financing, and human resources

Recommendations
1. Convene stakeholders to develop an mHealth research agenda that prioritizes the evidence required for governments, policy makers, and industry partners to invest resources into the sector.
2. Shift from small, short-term, pilot projects, to long-term studies with representative sample sizes that can be replicated in different geographies, especially for areas of mHealth with a strong evidence base.
3. Concentrate on cost-benefit studies that will allow for an assessment of the value of mHealth solutions, and an increased investigation into business cases that can support their growth.
4. The current single-solution focus of mHealth needs to be replaced with end-to-end patient care systems that integrate with existing health information systems and eHealth platforms along the continuum of care.
5. Develop standardized metrics to facilitate systematic comparisons of the impact of mHealth projects, including metrics that reflect technical and health outcomes.
6. Require organizations developing software solutions to be screened prior to implementation for alignment with a country’s enterprise architecture standards, national health priorities, context, available infrastructure, and human and financial resources.
7. Invest in a locally driven support system for mHealth, which includes the development of a workforce through human resources capacity strengthening, and policies that govern patient and data security.

Access a full version of the whitepaper at the following link: