

THE GROWTH OF MHEALTH IN LOW RESOURCE SETTINGS

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The ever increasing global interest integrating mobile health is evidenced by a shift in the paradigm from one of curiosity to establishing an evidence base for its use. Not surprisingly, over the last past three months there have been several major publications in journals with a broad medical readership that have commented on the evidence for mHealth interventions. Most notably, Free and colleagues from the London School of Hygiene and Tropical Medicine published two excellent meta-analyses in PLoS Medicine quantifying the effectiveness of mHealth interventions. The studies concluded that presently there are few studies of high methodological quality in the field of mHealth. The limited strength of evidence was in support of using Short Message Service (SMS) reminder to improve patient attendance, facilitating communication amongst health professionals, and improving patient adherence to medication (in the context of anti-retroviral treatment in HIV).(1, 2) The authors highlighted major methodological limitations and lack of scientific rigour in study design and analysis the lack of objective clinical outcomes, and the heterogeneity between reported outcomes amongst studies with similar interventions. Importantly, few studies were

conducted in low-resource settings, where mHealth is well positioned to have a large impact.

In this context, it is fitting that in the first issue of the 2nd volume of this Journal, we are pleased to have published two noteworthy contributions outlining the impact of mobile telecommunication growth in developing countries. These publications are timely given the emphasis from the World Health Organization to generate a strong evidence base prior to integrating mobile health to address public health challenges.(3)

In the paper by Bastawrous, it is brought to our attention the true magnitude of mHealth globally. The

author poignantly illustrates using innovative diffusion-based cartography the global shifts in uptake of mobile phone use. Currently 70% of wireless telecommunication subscribers reside in low and low-middle income countries. This is contributed largely by the dramatic escalation in mobile phone uptake in some of the poorest nations in South-East Asia and the Indian subcontinent. Coupled with the evidence identified by Free and others, these statistics show a significant potential for mHealth to address health systems challenges (health workforce, equipment, medications, financing) and achieve equitable care particularly to the poor, and those residing in rural and remote regions.

Similarly, Skaria comments on the utility of mHealth for health information delivery in an Indian context. Despite the exponential growth of mobile phone subscriptions in India over the past decade, the author alerts the reader to societal and practical challenges that need to be considered within India. Practical limitations related to the delivery of health care messages includes addressing the numerous dialects and languages, and using mHealth to delivery culturally appropriate messages that considers illiteracy amongst the poor and those in remote areas. Another important practical consideration is the actual feasibility of contemporary mobile technology for use by the average community member. Whilst many people own or use mobile phones, there needs to be consideration into dependency and access on wi-fi technology, availability and affordability of newer hardware models and their associated with 3G/4G cellular networks charges. Given these limitations, the author suggests that greatest foreseeable benefit of mHealth in India will be through development of low-cost audible and readable message delivery, and

utilising mHealth to improve patient follow up, and compliance with treatment.

Both these publications have highlighted the demand and the potential for mHealth interventions to have significant impact in addressing important public health issues in low-resource settings. In the context of evidence from the two meta-analyses, it is clear that there is a need for well-designed studies emerging from developing and under-resourced settings. This will not only ensure scientific evidence is applicable to their specific context, but also contribute to identifying exactly what capacity mHealth can play in the delivery of cost-effective and equitable health care.

References

1. Free C, Phillips G, Galli L, Watson L, Felix L, Edwards P, et al. The Effectiveness of Mobile-Health Technology-Based Health Behaviour Change or Disease Management Interventions for Health Care Consumers: A Systematic Review. *PLoS Medicine*. 2013;10(1):e1001362. doi:10.1371/journal.pmed.
2. Free C, Phillips G, Watson L, Galli L, Felix L, Edwards P, et al. The Effectiveness of Mobile-Health Technologies to Improve Health Care Service Delivery Processes: A Systematic Review and Meta-Analysis. *PLoS Medicine*. 2013;10(1):e1001363. doi:10.1371/journal.pmed.
3. WHO. mHealth: New horizons for health through mobile technologies. Based on the findings of the second global survey on eHealth. Geneva: World Health Organization 2011.