An mHealth Model to Increase Clinic Attendance for Breast Symptoms in Rural Bangladesh: Can Bridging the Digital Divide Help Close the Cancer Divide?


Correspondence: Ophira M. Ginsburg, M.D., Women’s College Hospital, 790 Bay Street, Room 708, Toronto, Ontario, Canada M5G 1N8. Telephone: 416-351-3787; E-Mail: Ophira.ginsburg@wchospital.ca

Received August 14, 2013. Accepted October 24, 2013. First published online in THE ONCOLOGIST Express on January 6, 2014.

Disclosures of potential conflicts of interest may be found at the end of this article.

ABSTRACT

Objective. To demonstrate proof of concept for a smart phone-empowered community health worker (CHW) model of care for breast health promotion, clinical breast examination (CBE), and patient navigation in rural Bangladesh.

Methods. This study was a randomized controlled trial: July 1 to October 31, 2012, 30 CHWs conducted door-to-door interviews of women aged 25 and older in Khulna Division. Only women who disclosed a breast symptom were offered CBE. Arm A: smart phone with applications to guide interview, report data, show motivational video, and offer appointment for women with an abnormal CBE. Arm B: smart phone/applications identical to Arm A plus CHW had training in “patient navigation” to address potential barriers to seeking care. Arm C: control arm (no smart phone; same interview recorded on paper). Outcomes are presented as the “adherence” (to advice regarding a clinic appointment) for women with an abnormal CBE. This study was approved by Women’s College Hospital Research Ethics Board (Toronto, Ontario, Canada) and district government officials (Khulna, Bangladesh). Funded by Grand Challenges Canada.

Results. In 4 months, 22,337 women were interviewed; <1% declined participation, and 556 women had an abnormal CBE. Control group CHWs completed fewer interviews, had inferior data quality, and identified significantly fewer women with abnormal breast exams compared with CHWs in arms A and B. Arm B had the highest adherence.

Conclusion. CHWs guided by our smart phone applications were more efficient and effective in breast health promotion compared with the control group. CHW “navigators” were most effective in encouraging women with an abnormal breast examination to adhere to advice regarding clinic attendance.

©AlphaMed Press
Increasing attention has also been drawn to the critical shortages in trained healthcare personnel throughout the world. There are now 57 countries.

This report is divided into six sections: Section 1 provides an overview of mHealth as a domain within eHealth and key strategic learning that ought to be applied to the formal integration of mobile technologies within the health sector. Section 2 reviews health-related applications associated with mobile phones, PDAs, remote patient monitoring systems, MP3 players, and other mobile technologies. The results were a lowering of non-attendance to scheduled appointments, yielding significant savings in health costs for facilities and practitioners. In this case the benefit is cost-related rather than health outcome related.