

collected when available included specific surgical field, category of technology used, intent of technology used, effectiveness (e.g. patient outcomes when applied to patient-care, or test-scores when used for education), patient satisfaction, and costs.

Findings: The review resulted in data for 2 LIC, 4 LMIC, and 8 HMIC countries in 21 articles. The most common surgical field was endocrine surgery, followed by orthopedics. Generally, videoconferencing (62%) was the most common technology used, and teleconsultation (38%) was the most common use of technology. Generally, utilizing telehealth in surgery was effective, satisfying to the patient, and economical with no difference noted where calculated although significance was questionable.

Interpretation: Telesurgery exists in many permutations in LMICs. However, there is little evidence in the medical literature illustrating its use other than in high-income settings. Issues such as infrastructure, overstressed workforce, or scalability were just a few of the issues that are relevant, which are ignored by the present literature. Further research is required to evaluate these areas in addition to relevant usage, technologies, and outcomes of telesurgery, especially in low and middle-income settings.

Funding: No funding was received for this study.

Abstract #: 02ITIS019

Scaling up WelTel: an evidence-based, patient-centred mHealth intervention

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Program/Project Purpose: WelTel is an interactive text messaging mobile health (mHealth) program involving weekly check-ins with patients, and follow-up through voice communication when needed. We previously demonstrated the effectiveness of the WelTel intervention in improving HIV outcomes in a landmark randomized clinical trial conducted in Kenya. As part of this program, we are building on our previous work to scale up and conduct a comprehensive evaluation of the WelTel intervention in several government clinics where it is being implemented in Canada and Kenya. The aim is to determine the feasibility, cost-effectiveness and sustainability of the WelTel intervention for improving Human Immunodeficiency Virus (HIV), tuberculosis (TB), Maternal Neonatal and Child Health (MNCH) and asthma patient outcomes. This project is expected to run until January 2017.

Structure/Method/Design: In Kenya, the intervention is being scaled up in the Northern Arid Lands region, where the need for mHealth services is greatest. In Canada, we are focussing on marginalized communities suffering from HIV and TB, where interventions to improve patient engagement are needed. We will use the published Consolidated Framework for Implementation Research (CFIR) to conduct a comprehensive evaluation of the program across all the implementation sites. To encourage viability and sustainability, we are working closely with government and institutional authorities, as well as other implementation partners to develop and harmonize mHealth policies and standards. To enhance economic sustainability, we have developed a hybrid business model (consisting of a not-for-profit arm to operate in Kenya and other low-income settings, and a for-profit arm to operate in Canada and other high-income settings).

Outcomes & Evaluation: So far, we have successfully implemented the program in 7 HIV clinics in Kenya. Based on user feedback, we have developed a robust and user-friendly patient engagement mHealth technological platform, which works well, even in remote settings. We are currently conducting a comprehensive evaluation of quantitative and qualitative patient and health system outcomes. Initial feedback suggests that the majority of health providers, patients and decision-makers highly value the intervention, particularly its

capacity for keeping vulnerable patients connected to the health care system, and allowing effective remote patient follow up and triage.

Going Forward: We are working closely with health authorities and regulators to develop consistent mHealth policies and standards, as these are required to guide implementation. Based on the feedback we have received from our stakeholders, we are exploring ways to furth

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mMOM - Improving maternal and child health for ethnic minority people in mountainous region of Thai Nguyen province of Vietnam through integration of mHealth in HMIS and user-provider interaction

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Program/Project Purpose: Context: Vietnam is likely to achieve MDG on maternal and child health (MCH) but MCH indicators for ethnic minority people and people living in mountainous regions are far lag behind. Education, access to health care knowledge and services, remoteness from health care services were found as the main reasons. Period: 3 years between 2014 and 2016. Rationale: It is expected that mobile phones can help to mitigate barriers to MCH services of the ethnic minorities and people living in mountainous region and facilitate interaction between them and health workers for better health outcomes. Aim: To develop, pilot and learn about feasibility of a low cost mHealth behavior-change-communication (BCC) model as a part of the existing health management information system (HMIS) in the province for better MCH outcomes in mountainous region.

Structure/Method/Design: The goal is to improve health of pregnant women and the newborns in mountainous regions. Participants and Stakeholders: Institute of Population, Health and Development (PHAD) and Thai Nguyen Provincial Health Department (TNHD) are co-managers; district and commune health departments are implementers of the project; pregnant women and new mothers are the beneficiaries. VEH Medical Investment and Communication (VEH) develop the software. VEH, Simon Fraser University (SFU), Centre for Addiction and Mental Health (CAMH), and consultants from Hanoi Medical University (HMU) and School of Public Health (HSPH) provide technical advisories and capacity building trainings. Capacity Building/Sustainability: TNHD is a co-manager of the project and own project resources after its completion for further use and scaling-up. Staffs of district and commune health centers are implementers of the project; they received various capacity building trainings for full ownership and management of the intervention.

Outcomes & Evaluation: To date, the mHealth BCC and HMIS-integrated model was developed and used. Assessment survey was completed and used to refine the project activities. Data collection for pre- and post-intervention surveys is progressing. Capacity building trainings were completed; graduate students from HMU, HSPH, SFU and University of Toronto have been engaged to the project. Ministry of Health provided MCH materials to the project. Monitoring & Evaluation Results: TNHD and local health workers show great supports and positive feedbacks to the piloting model; they found that it helped to reduce their work load and meet the expected goals of the MOH on MCH. Participating women are very satisfied with the intervention.