Current applications of mHealth and community health workers to diagnose surgical site infections in LMICs: An Exploratory Literature Review

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Abstract:

Background: Community health workers (CHW) have been used to support maternal child health, HIV/AIDS, reproductive health, non-communicable diseases, and mental health initiatives in low and middle income countries (LMIC). As efforts to improve access to surgery in LMIC grow, there is great potential for the expansion of CHW in the surgical arena. According to the Global Guidelines for the Prevention of Surgical Site Infection, surgical site infections (SSI) are occurring in 11.8 out of every 100 surgeries completed in LMIC. The need to continue expanding access to surgical care and high incidence of SSI in LMIC suggests an opportunity for innovation in the use of CHW to assist in the identification and diagnosis of SSI. This exploratory study aims to review the key elements, limitations, and benefits of using CHW equipped with mHealth decision support in diagnosing SSI in LMIC.

Methods: During January 2020, study investigators reviewed articles from relevant PubMed, ScienceDirect and Google Scholar literature in order to identify key elements, limitations, and benefits of using CHW and mHealth to diagnose and identify SSI. Keywords of the literature review included relevant terms for SSI, CHW and mHealth. Through a literature review, we identified 14 studies that used CHW and technology to diagnose medical problems in LMIC. Out of the 14 studies initially identified, only two studies specifically used CHW and mHealth to diagnose SSI.

Results: The two articles included in this study provided successful examples of how CHW and

mHealth were used to identify SSI in Rwanda and Haiti. Key elements of each program included access to mobile devices, integration of decision support, a validated screening tool, and trained CHW with access to surgical care. The key barriers identified in both Haiti and Rwanda were inherent dependence on technology, heterogeneity of CHW training protocol, patient apprehension of technology use, lack of transportation infrastructure, and sensitivity of SSI identification tools.

Publication of speakers:

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3. Mousa, A. Y., Broce, M., Monnett, S., Davis, E., Mckee, B., & Lucas, B. D. (2019). Results of Telehealth Electronic Monitoring for Post Discharge Complications and Surgical Site Infections following Arterial Revascularization with Groin Incision. Annals of Vascular Surgery, 57, 160–169. doi: 10.1016/j.avsg.2018.09.023

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