

Using smartphones and tablets to improve access to evidence-based medical resources and document clinical practice by clinical associate students in South Africa

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Program/Project Purpose: More than six million South Africans (19 percent) live with HIV. A critical lack of trained clinicians, especially in rural areas, undermines South Africa's HIV response and hinders access to HIV care and treatment. Since 2008, the American International Health Alliance (AIHA) HIV/AIDS Twinning Center has facilitated partnerships between three American and South African universities to establish a new, mid-level cadre of health care professionals called Clinical Associates (ClinAs). The introduction and integration of this new cadre into the health system aims to strengthen South Africa's primary healthcare services, especially for PLWH. ClinAs and their supervisors initially used a time-consuming, paper-based system to document clinical encounters and monitor student performance. ClinA students and faculty often lacked Internet access to learning materials and evidence-based information while training at clinical sites, where 70–90% of ClinA training takes place. AIHA therefore used smartphones and tablet devices to enhance ClinAs' access to evidence-based resources and to document patient interactions.

Structure/Method/Design: In partnership with Dimagi, an IT social enterprise, ClinA students at the University of the Witwatersrand (Wits) launched the Digital Integration of Clinical Associate Studies project (DICAS). DICAS provided students with 24/7 access to curricular resources and enabled stronger communication between students and course coordinators. The project also developed the CommCare application (app), an android-based electronic logbook, which tracks students' clinical experiences at training sites, documents patient consultations, and helps faculty and coordinators monitor student performance.

Outcomes & Evaluation: Students enter real-time clinical practice data in the wards via CommCare, which is automatically sent to a database that allows onsite supervisors and campus-based faculty to monitor student rotations and performance. The CommCare app also enables more rapid and comprehensive reporting compared to the former paper-based logbook, which allows coordinators to evaluate clinical training sites and continuously update and adapt the ClinA curriculum. ClinA students also use tablets to access other medical apps, evidence-based clinical reference materials, clinical procedure videos, national clinical practice guidelines and other clinical training materials. AIHA also supported training for students to install medical apps and search for answers to their clinical queries on their own smartphones. Android-based medical apps like Medscape allow students to download content to the memory of the device, which can then be accessed without an Internet connection.

Going Forward: Dimagi will train additional staff to use the CommCare app. Wits will adjust clinical placements based on data from DICAS to ensure ClinA students receive the practical training they need. In 2015, AIHA will utilize the CommCare app to capture practice data

Funding: AIHA's HIV/AIDS Twinning Center receives funding from the President's Emergency Plan for AIDS Relief through CDC/South Africa.

Abstract #: 011TIS001

Can hospital accreditation fit in the developing world?: A study of two Southern African countries

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Background: More developing countries are adopting hospital accreditation to improve the quality of their health systems. To date, no one has formally assessed the extent to which the various accreditation standards and processes introduced in developing countries by international partners appropriately reflect the country's specific context. This study attempts to explore the question: Are current practices in hospital accreditation in the developing world appropriate for the developing world context, and if not, what would make them more appropriate?

Methods: This qualitative study draws from the experiences of hospital staff and national leaders in two Southern African countries, Lesotho and Swaziland, during their early stages of implementing hospital accreditation. Lesotho and Swaziland were selected as representing two different implementation approaches, with Lesotho implementing a locally developed approach using minimal resources and Swaziland implementing a regional, internationally recognized, and resource-intensive system for accreditation. IRB approval was received from Boston University Medical Center. Ethical approvals were also provided by the Lesotho Ministry of Health and Social Welfare and the Kingdom of Swaziland Ministry of Health. To explore the research question, we surveyed two modified expert panels with hospital leaders from Lesotho (11) and Swaziland (33), who rated the appropriateness of each national standard on a scale from 1 to 9 and provided written comments modeled after the RAND Appropriateness Method. Then 13 interviews with national leaders and 7 focus groups with 61 frontline hospital staff further explored the appropriateness of the standards and process being used in each country based on their experiences in implementing accreditation. Given the lack of prior research in this area, grounded theory approaches were used in collecting and analyzing data.

Findings: Overall, perceptions of the appropriateness of accreditation were mixed with high importance in both countries, fairly strong relevance, and moderate feasibility due to limited financial and human resources. Perceptions of appropriateness of accreditation processes were strongly influenced by six key factors: (1) introducing accreditation to hospital staff, (2) promoting a gradual implementation process, (3) including all hospital staff in the process, (4) defining who is responsible for what, (5) demonstrating leadership commitment, and (6) providing implementation support. These themes were then unified through Ajzen's theory of planned behavior with the most important element influencing staff buy-in to hospital accreditation being perceived behavioral control.

Interpretation: Overall, this study found that staff and national leaders agreed there is, indeed, a problem with the quality of care in hospitals, and there is a strong desire to change it. But low perceived behavioral control is hindering the successful implementation of accreditation. Developing standards and processes that improve perceived behavioral control is key to increasing staff support for implementing hospital accreditation, and perhaps other quality improvement efforts as well.

Funding: None.

Abstract #: 011TIS002