

Findings: Process mapping identified barriers of the inner setting (frequent nursing turnover, ineffective communication between OT staff and administration, inconsistency in standards for both autoclave use and scrubbing practices, and unclarified responsibility for antibiotic administration); outer setting (increasing social unrest); and resources (lack of running water and adequate skin prep in obstetrics, lack of distilled water for autoclave use, and lack of sterilization certification methods).

Interpretation: Many perioperative infection prevention norms are complex and challenging to measure; in particular, sterile processing, skin decontamination, and antibiotic administration. Process mapping identified resource constraints and communication factors associated with inefficient processes. Implementation science, especially process mapping of complex perioperative processes, is a valuable tool for surgical safety quality improvement.

Source of Funding: GE Foundation.

Abstract #: 1.046_HHR

Traditional Music as a Sustainable Social Technology for Community Health Promotion in Africa: “Singing and Dancing for Health” in Rural Northern Ghana

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Program/Project Purpose: This project and accompanying implementation research aim to promote rural health in northern Ghana—specifically, to reduce incidence of malaria and sanitation-related illnesses, using local expressive arts both in professional performances and subsequently sustainably embedded in rural communities.

Structure/Method/Design: The project was designed in five phases and carried out by a collaborative team based in Ghana and Canada, using a participatory action research methodology. Phase 1 entailed formation of the team, and production of musical dance-dramas, deploying traditional music and dance resources within dramatic narratives highlighting key health issues, and underscoring proper and improper attitudes and behaviours. In Phase 2 we administered KAP surveys in three rural communities to gauge attitudes and practices regarding malaria and sanitation. In Phase 3 we held professional dance drama performances in the same communities. In Phase 4 we repeated surveys to evaluate impact. Finally, in Phase 5 we established, equipped and trained amateur performance groups in the rural communities themselves, to promote public health messaging through performances on special traditional, civic and school occasions. Our hypothesis was that these groups would be more sustainable and effective since they are embedded in their communities, and that their health messaging repertoires would enter into local oral tradition.

Outcome & Evaluation: Assessments (Phases 2 & 4) demonstrated the positive impact of professional performances in fostering positive health behaviours and also preparing communities to enthusiastically support the new amateur performance groups of Phase 5.

While the high cost of professional performers in Phase 3 was unsustainable, amateur rural performance groups have continued to thrive over the past year and a half.

Going Forward: Further longitudinal research over the coming years will be required in order to determine the sustainability of the engaged community approach, including the longevity of amateur performance groups, their impact, and their ability to sustain themselves and their health repertoire messaging through oral transmission. Such research will also clarify the extent to which outside support is still required, and the best means of establishing such groups. Meanwhile we seek resources to replicate this model in other villages.

Source of Funding: Killam Foundation, University of Alberta (Faculty of Arts, and Faculty of Medicine and Dentistry), and Canadian International Development Agency (now Global Affairs Canada).

Abstract #: 1.047_HHR

Knowledge and Skill Retention of a Novel Lay-Provider Trauma Training Curriculum in Rural Peru: A Longitudinal Study

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Background: The World Health Organization (WHO) recognizes that up to 50 million individuals suffer non-fatal injuries annually due to road traffic accidents and predicts that by 2030 road traffic injuries will be the eighth leading cause of death worldwide. While the burden of road traffic injuries is decreasing in high-income countries (HIC), low- and middle-income countries (LMIC) are disproportionately affected with 90% of road traffic deaths worldwide and only 20% of the world's vehicles. The majority of these deaths occur pre-hospital, however many LMIC frequently lack formal pre-hospital systems or Emergency Medical Services (EMS). Our current ongoing initiative in the Sacred Valley found that over 70% of trauma patients utilize non-EMS methods to arrive at receiving hospitals in Cusco, Peru. Subsequently, a novel lay-provider first-responder training course was developed and implemented in rural communities surrounding Cusco, Peru. The current project established a longitudinal study to evaluate course efficacy.

Methods: A novel pre-hospital trauma course was developed from local trauma trends and current WHO guidelines. The course utilized an illustrative flipbook and focused skill sessions intended for lay-providers with limited formal education. By partnering with Sacred Valley Health, a local non-governmental organization, five course participants provided longitudinal data regarding knowledge and skill retention. A standardized 14 point test was administered pre-course, post-course, and at 3, 6, 9, and 12-month intervals. Individual and mean test scores were used for comparison.

Findings: The test scores significantly increased pre-course and post-course administration, with respective mean scores of 7 and 11. Additionally, course participants demonstrated knowledge and skill retention at 3 months after course completion, with a mean