

Background: As small-scale gold mining increases around the world, so does the use of mercury in gold extraction. Mercury is a dangerous neurotoxin, and mining communities often engage in worst-practices, such as burning mercury indoors. Peer education within formal educational campaigns may provide a sustainable way to teach safer handling practices and extend appropriate technology, but its impact within a transient mining community has not yet been studied. We aimed to assess the effect of combined community health talks and peer-to-peer discussions on the occupational behaviors of transient mining communities.

Methods: This community trial took place across 8 mining communities (estimated 16,722 people) in the Health District of Saraya, located in southeast Senegal. The study consisted of a baseline survey and two post-intervention surveys, supervised by health district staff and Peace Corps Volunteers. All mining communities were exposed to a 3-week educational intervention consisting of formal health talks by community health workers, informal discussions by peer educators, and appropriate technology extension. Data collectors used a probability sampling technique to invite participants to the study. All working age members of the mining communities were eligible to participate in the survey. Informed consent was requested prior to administration of the survey. A 36-item survey on socio-demographic and occupational behaviors, modified from a United Nations Industrial Development Organization health assessment questionnaire, was translated and read aloud by data collectors. The primary outcome of interest was location of burning mercury. A multivariate logistic regression was performed using a dichotomous outcome to assess impact on burning location. The study protocol was reviewed by the institutional review boards at Ben Gurion University and the Senegalese Ministry of Health.

Findings: 599 responses were collected for the baseline survey (January 2013), and 557 for the first post-intervention survey (April 2013). These surveys did not vary by ethnicity, nationality or marital status, but varied by age, gender, education level, profession, time spent at the mine, mercury use and previous participation in a safe handling program. A significant association, controlled for significant confounders, was found between the community intervention and a reduction in burning mercury inside a home or shop (OR=0.83, $p < .01$).

Interpretation: An educational campaign using peer educators may improve uptake of safer handling practices in small-scale mining communities. Limitations: the study lacked control villages to assess external influences on behavioral change; it also relied on self-reported outcomes. Strengths: the estimated effect is highly generalizable to other mining communities since the study population is transient in nature and unlikely to be biased by the strong rapport established between permanent residents and other stakeholders.

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Second chance education in Zimbabwe: An inclusive model to achieve education for all

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Program/Project Purpose: Recent statistics indicate that approximately 30% of Zimbabwean children do not complete primary school, and only 68% graduate to secondary school. In response, in 2009, World Education, Inc./Bantwana (WEI/B) with support from Open

Society Initiative of Southern Africa (OSISA), developed and piloted a Second Chance Education program for out-of-school children in Zimbabwe to receive primary education and reintegrate into formal schooling. This accelerated learning model was piloted in non-formal community learning sites with trained community volunteer facilitators teaching an accelerated primary school curriculum.

Structure/Method/Design: In 2012, building on the results of the pilot, and in support of the Government of Zimbabwe's goal of Education for All, WEI/B, in partnership with UNICEF, USAID, the Education Development Fund and the Ministry of Primary and Secondary Education (MoPSE), initiated an in-school accelerated learning program (ALP) using a non-formal education model that utilizes methodologies and tools adaptable for the formal schooling system. The ALP model compresses the seven-year national primary school curriculum into three years and utilizes a participatory approach, incorporating multi-grade teaching and learning. ALP's objectives are to: 1) build the capacity of 600 schools in 32 districts to reintegrate 30,000 out-of-school-learners; 2) strengthen the non-formal education system to support Second Chance Education for hard to reach children and link them to formal delivery structures; and 3) test and finalize the ALP curriculum to enhance MoPSE standards and guidelines. To ensure sustainability, WEI/B's inclusive approach encourages the community to take responsibility and identify out-of-school children through community sensitization meetings. Teachers with experience in multi-grade teaching are selected by the school management committee, and given intensive training in the new accelerated learning syllabus. To ensure sustainability, MoPSE Provincial and District staff are fully involved in all stages of program implementation.

Outcomes & Evaluation: To date, the program is being implemented in 593 formal school sites, 20 community learning sites, and has reached 28,607 learners including 1,379 children who have been reintegrated into mainstream schooling. The WEI/B ALP tools utilized by facilitators include a compressed national syllabus, an ALP Student Handbook, and an ALP Facilitator's Handbook. All are currently being reviewed by MoPSE's curriculum board for approval for national roll-out. Based on the results of the Second Chance program, WEI/B contributed to the writing of Zimbabwe's first Non-Formal Education policy earlier in 2014.

Going Forward: The main challenge facing the program is the payment of school fees for children transitioning from ALP into mainstream schooling. WEI/B is engaging private-sector donors in Zimbabwe to contribute to these efforts and is working with MoPSE to take on the cost of teacher stipends.

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Mentoring to promote nurse-midwife retention in Tanzania

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Program/Project Purpose: In an effort to reduce maternal and infant mortality, Tanzania aims to increase access to skilled nursing and midwifery care. Evidence suggests strengthening clinical mentorship and supportive supervision of novice nurse-midwives will facilitate retention of them. The purpose of this poster is to discuss the development, implementation, and ongoing evaluation of a week long train-the-trainer program designed to improve the teaching, clinical supervision and mentoring capacities of nurses-midwives at two rural hospitals in Tanzania over a one year period.

Structure/Method/Design: An in-country needs assessment was conducted to ascertain the concerns of funders, health care providers, and hospital management at each site prior to program implementation. After the needs assessment, two expert clinicians (one master nurse educator, one midwife) were sent to design and implement a week long clinical mentoring program for expert Tanzanian midwives. Clinical case studies served as the curriculum framework to discuss how mentorship and clinical teaching could be integrated into an overburdened environment to enhance professionalism and support best practice. The nurse midwives for the training were selected by hospital management to participate.

Outcomes & Evaluation: To date, nine midwives have received the week long training. Initial program evaluation has been positive with participant comments on new knowledge acquired in mentoring, clinical case management, and newborn resuscitation. A second training is scheduled for a second rural hospital with follow-up and monitoring of the first site in January 2015. Three themes have emerged from program implementation: curriculum development in low resources settings requires a rapid assessment of the clinical and practical needs of the participants; flexibility and creativity in teaching methods are essential to engage students; and finally, access to students prior to program implementation may facilitate a more tailored approach and lead to greater participant engagement.

Going Forward: Health workers' ability to educate future generations of Tanzanian health care providers must be enhanced and sustained to maximize gains for the women they serve. The shortage of human resources threatens the effectiveness and sustainability of efforts to build capacity among staff. Offering curriculum development and implementation support—through university partnerships—may offer a key strategy to filling a need to support nurses and midwives who work under resource-strained conditions.

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Education for male reproductive health in andean Peru

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Background: Abstract: Background. Education gaps regarding male reproductive health were assessed in the town of Ollantaytambo, Peru and surrounding areas. The goal of the project was to identify the three greatest needs for educational intervention, design an effective curriculum to address those needs, and test the curriculum to determine acceptability. Male reproductive health is a major issue of importance because sparse resources are allocated to address this issue, which has a major negative health impact on Ollantaytambo and surrounding areas. Machismo, or a culture of masculine pride, is present in the area as well which facilitates a greater onus of contraception and sexually transmitted disease prevention on women than men.

Methods: 13 people were interviewed in a community needs assessment to determine men's needs for education on male reproductive health. Interviewees ranged in age from 26-64, and included local health workers, health promoters, NGO workers, and residents of Ollantaytambo and surrounding communities in Peru. Information from this interviews was then used to design a curriculum, which was field tested with a group of nine males in the community of Huilloc.

Findings: The community needs assessment elucidated three major gaps in male reproductive health knowledge, which included knowledge about contraceptive methods, sexually transmitted diseases, and

proper condom use. These three areas were therefore targeted in the curriculum, which included lesson plans, examples of contraception, and assessment materials. After the field test, each man knew how to properly put on a condom and learned more about contraception. Additional questions regarding sexually transmitted diseases, vasectomies, and tubal ligation were discussed. Curriculum materials were revised and improved after the field test, and will be used by Sacred Valley Health (SVH), a community-based organization, to continue education targeting men.

Interpretation: Male reproductive health is a topic that needs to be addressed in Ollantaytambo and its surrounding communities. Language barriers are present in the forms of Spanish and Quechua, and should be considered with all interventions. Education of males in the area regarding contraception, sexually transmitted diseases, and proper condom use with this curriculum should continue, with revisions and improvements by SVH as needed.

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Understanding how rural trauma patients arrive to centers of care in Peru

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Program/Project Purpose: The WHO predicts by 2030 that death and disease attributed to road traffic trauma will outnumber most other causes of death worldwide. Resource poor countries will shoulder the majority of these injuries and deaths, with literature suggesting that up to 81% of these deaths occur in areas without established Emergency Medical Services (EMS). Few studies have investigated and implemented trauma education to improve these disparities. By investigating trauma trends at a large referral center in Peru, we hope to better understand existing methods of transportation for these patients and the feasibility of layperson trauma education. We hypothesize that the majority of trauma patients will be transported via non-EMS methods.

Structure/Method/Design: After performing a needs-based assessment in March 2014 and obtaining IRB approval, investigators were placed at a large referral hospital in Cusco, Peru, Hospital Regional. During the month of July 2014, investigators performed a survey of trauma patients arriving to the Emergency Department (ED), focusing on mode of transport, age, distance traveled, and type of injury. By specifically focusing on the mode of patient transportation, we hope to demonstrate that private transport, rather than traditional EMS, was the main method of transport utilized for the majority of trauma patients arriving at Hospital Regional.

Outcomes & Evaluation: During the study period, information was compiled from 302 trauma patients presenting to Hospital Regional in Cusco, Peru, with an average age of 32 years old. 52% of the trauma patients arrived from outside of Cusco, with some patients traveling over 3 days by foot, boat, and road. The most common mode of transportation to the hospital was taxi (49%), followed by ambulance (19%), bus (13%), private vehicle (8%), foot (3%), police (2%), and fire department (2%). Non-EMS transport was the method utilized by the majority of patients surveyed (70%), confirming our hypothesis that most of the trauma patients arrived to the referral center without EMS support.

Going Forward: Our research demonstrates that most trauma patients at a large referral center in Southern Peru arrive via non-EMS