

there are 21.7% vitamin A, 34% iodine, and 68% iron micronutrient deficiencies. In order to better address malnutrition, nonprofit organizations and nursing education institutions will partner with CHT community health worker (CHW) programs from Fall 2016 through Fall 2017 targeting the Millennium Development Goal 4: reduction of child mortality (UNICEF).

Structure/Method/Design: In the prospective study of the CHW malnutrition pilot program, the trainee participation is limited to 20 enrollees to ensure optimal learning resulting in increased knowledge and skills in detection and management of malnutrition. Community elders identify health priority areas, successes and challenges with addressing the health concern, sustainable solutions utilizing existing health services, and key stakeholders to implement the CHW health pilot program. The project viability is dependent upon formal (health system and nongovernmental agencies) as well as cultural (community elders) partnerships.

Outcomes/Results: Education institutions will provide nursing instructors to facilitate learning sessions to identify early and chronic symptoms as well as risks for complication of malnutrition (Phillips & Jensen, 2013). CHWs apply their knowledge in malnutrition with height, weight, head circumference, and anthropometric measurements skills. Trainees show increases in knowledge, attitudes, and beliefs on key training topics selected by the community elders. The health education intervention builds upon nonprofit and community-led partnerships to prevent and to treat children's micronutrient deficiencies. There are clinical, program, and policy implications with improved pediatric morbidity and mortality.

Going Forward: January 2014 saw hartal demonstrations which hindered movement necessary for outreach camps targeting staff training and specialty delivery of patient services. International sponsors expected uninterrupted program activities; however, international aid organizations were unable to sustain funding through the political insecurity. Unmet goals include patients requiring identification and management of malnutrition and staff requesting nutrition training updates. Future program activities were deferred by demonstrations until Fall 2016 requiring additional fundraising efforts.

Funding: No current funding.

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Research-driven schistosomiasis mass drug administration campaign in four Tanzanian villages along Lake Victoria

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Background: Schistosomiasis is the deadliest neglected tropical disease, and it impacts primary school attendance, lowers growth proportions, and delays cognitive development. Previous unpublished research showed that the schistosomiasis prevalence among school-aged-children in one lakeside community was 95%. This program aimed to conduct research on schistosomiasis prevalence to guide the implementation of a mass drug administration

(MDA) campaign against schistosomiasis. This program lasted between May and September 2015.

Methods: The first part of the program aimed (1) to quantify the burden of the schistosomiasis infection in four communities in Rorya District, Tanzania, (2) to identify risk factors for infection, and (3) to determine if prior treatment campaigns lowered prevalence. The second part of the program utilized this community-based research to scale an existing MDA. Program participants were recruited through mass community advertising. The project will be continued through a new partnership between SHED Foundation and Duke GlobeMed.

Outcome & Evaluation: By using CCA-antigen urine rapid tests (N=1600), schistosomiasis was found to be highly prevalent among both adults and children in the four tested communities, with prevalence ranging from 90% to 97% for adults and 85% to 90% for children. Major risk factors implicated in such high prevalence include youth, no prior treatment, and proximity to Lake Victoria. Comparing the number of uninfected people who were previously treated in a 2014 campaign (N=216) and the number of people not previously treated (N=216) showed that SHED Foundation's 2014 MDA led to a 57% increase in the percent of uninfected people (7% to 11%). As a result of these findings, an MDA was launched in the four communities in coordination with the SHED Foundation. In total, over 8,000 community members were given free praziquantel during the program period.

Going Forward: SHED Foundation is exploring the feasibility of using mass texting to increase future MDA coverage.

Funding: None.

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Bi-directional model for International and local collaboration among student initiatives towards Global Health Education and practice

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Program/Project Purpose: In partnership with the Rwanda Village Concept Project (RVCP), the Rwanda Health and Healing Project (RHHP) at Thomas Jefferson University (TJU) in Philadelphia USA provides health professional students with opportunities to serve communities at both the local and the global levels. Working with community based organizations like Barefoot Artist in Rugerero in Northwest Rwanda and the RVCP, medical students from TJU were involved in implementing community building through art and public health programming. These programs and activities expanded to Akarambi, near Kigali, where students, with the help of local leaders and the RVCP, implemented longitudinal, interdisciplinary programming in health and hygiene, nutrition, village gardens, helminthic prevention, HIV/AIDS education and support groups, and family planning providing students from TJU hands on knowledge of tropical diseases.

Structure/Method/Design: In 2006, to enrich the partnership, the RVCP and RHHP developed an exchange program for

Rwandan medical and pharmacy students. To date, Jefferson has hosted 27 Rwandan medical students as part of a 2-month clinical experience during which students attend public health courses, complete observatory clinical rotations, work in the Clinical Skills Center, and participate in community outreach activities. Directed by an interdisciplinary group of student, resident and faculty *global health clinical mentors* across several departments, the curriculum is designed to introduce Rwandan students to the many dimensions of clinical and global public health practice, health systems, and health professions education in the United States.

Outcome and Evaluation: The RVCP-RHHP exchange provides the opportunity to expose students from the United States and Rwanda to the practice of healthcare across health systems, institutions, and cultures. Most importantly, this student initiated *bi-directional model* of global health education has the potential to build local and international global health capacity in a way that is fundamentally more equitable, cross-cultural, and inter-professional,

Going Forward: Future plans for the RHHP-RVCP project include: (a) continuing to seek opportunities for sustainability, (b) (c) consolidating more clinically focused rotation opportunities, and (d) continuing bi-directional mentoring programs.

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Evaluation of a health education intervention to improve maternal and early childhood nutrition in the Kisumu region of Kenya

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Program/Project Purpose: Nutrition during pregnancy and early childhood is a significant determinant of a child's physical and cognitive development, as well as their long-term health. In 2013, the Global Health Initiative (GHI) joined with a local organization, Partners in Community Transformation to initiate a community-based nutrition project in the Kisumu region of Kenya. The goal of this project was to provide Community Health Workers (CHWs) with the tools required to educate community members on maternal and early childhood nutrition. Since CHWs are integrated within the community and make frequent household visits, they are well positioned to disseminate important information about health to community members.

Structure/Method/Design: In 2014, the GHI team delivered workshops to CHWs about nutrition during pregnancy and early childhood. In 2015, the GHI team assessed whether this train-the-trainer teaching format was an effective tool for spreading information about nutrition within the community. Focus groups were conducted with CHWs in three villages near Kisumu. Topics included basic food groups, accessibility, knowledge and practices surrounding childbirth, breastfeeding and complementary feeding. In addition, random household surveys were conducted in each village to assess nutrition knowledge among community members.

Outcome & Evaluation: Overall, the train-the-trainer method was found to be an effective knowledge translation tool for maternal

and early childhood nutrition in rural communities. The information provided in the workshops was successfully retained among CHWs and conveyed to mothers in the community. For example, household surveys confirmed that 100% of women were aware of the exclusive breastfeeding protocol for six months prior to initiating complementary feeding, and breastfeeding should continue until at least two years of age. While many women were aware of these guidelines, they were not always able to adhere to them due to barriers such as inadequate finances, lack of access to certain foods, or another pregnancy.

Going Forward: The train-the-trainer format is appealing because it provides a community with the means to sustainably educate its members on important health topics. Future education teams will apply this teaching method to a variety of health topics in order to bolster overall community health.

Abstract #: 2.007_MDG

Treatment outcomes of HIV infected adolescents attending a national referral hospital in Kenya

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Background: HIV infected adolescents are at high risk of developing antiretroviral treatment failure and drug resistance. The study sought to describe the clinical, immunological and virological outcomes in a cohort of HIV infected adolescents actively on follow up in a tertiary hospital setting.

Methods: This was a retrospective review of electronic medical records. Data of HIV infected adolescents aged between 10 and 20 years with at least 6 months of follow up were abstracted. Categorical variables were compared using chi-square and Fishers exact test; continuous variables were analyzed using Student t-test and Mann Whitney test.

Findings: Of the 418 eligible adolescents, 312 (75%) were in WHO stage I and II HIV disease. The median CD4 cell count was 665 cells/mm³, with 85 % of them having a CD4 cell count exceeding 350 cells/mm³. Poor immunological status (CD4 cell count <350 cells/mm³) was associated with mid (14–16 years) and late (17–20 years) adolescence, [OR 2.2 (95% CI 1.1–4.4), P=0.032], [OR 2.8 (95% CI 1.2–6.1), P=0.0012] respectively. Mid adolescents (14–16 years old) were more likely to have virological failure (Viral load ≥1000 copies/ml) [OR (95% CI 0.2–1.0), P=0.044].

Interpretation: Mid and late adolescents were more likely to have a poor immunological outcome (CD4 cell count <350 cells/mm³). Mid adolescence was more likely to be associated with virologic failure (Viral load ≥1000 copies/ml). Interventions focusing on mid and late adolescence are necessary to improve outcomes in this cohort of adolescents.