

Program/Project Purpose: Epilepsy is an important cause of morbidity, unemployment, poverty and stigma in Sierra Leone. The burden of disease is high with more than 60,000 people affected, but the disease is not prioritized within the national health-care system. People living with epilepsy – especially in rural areas – have virtually no access to healthcare providers, medications, or psychosocial support for their condition. Partners In Health / Wellbody Alliance (PIH/WBA) has developed a program in the rural Kono district to meet these essential needs for epilepsy patients.

Structure/Method/Design: In collaboration with the Epilepsy Association of Sierra Leone, in March 2015, PIH/WBA led a nation-wide training for community health officers (CHOs), including a CHO from our staff, on the diagnosis and evidence-based management of epilepsy. The PIH/WBA health center has provided free services to epilepsy patients for many years. To address the problem of limited access in rural areas, after the national training, PIH/WBA organized a regularly scheduled outreach clinic in Sewafe, one of the hardest-to-access areas in the Kono district.

Outcome & Evaluation: As part of the national program, these outreach clinics are organized monthly by CHOs from the Epilepsy Association of Sierra Leone. Medication is provided at a cost of two dollars per month. Given poor outcomes associated with epilepsy, PIH/WBA aimed to strengthen this program in Kono district. Regular physician supervision was provided to the CHO for program management and implementation. Supply chain for medications was ensured and all medications provided at no cost to the patient. Given the rural nature of our community, eliminating the barrier of medication cost has improved adherence. There has also been a significant increase in the number of visits and we now have 200 patients on treatment.

Going Forward: Untreated epilepsy is associated with a high risk of complications, including cognitive impairment, mental illness and injury. The expansion of the epilepsy program in our rural district using midlevel healthcare workers with supervision and supply chain support is a promising model to improve the outcomes for these vulnerable patients.

Funding: Funded by PIH/WBA.

Abstract #: 2.018_HRW

Evaluation on the impact of an observational study regarding functional capacity evaluation in Mexican population on 2014

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Background: Facing the drastic increase in the last years of sedentary lifestyle and obesity it is necessary to look for tools that help us confront these two entities and show people that through physical activity they can achieve beneficial results for their health, drastically reducing the risk of suffering degenerative conditions such as cardiovascular diseases, diabetes and cancer, among others.⁽¹⁾

Methods: This program consists of a simple interview about nutritional and physical activity habits, somatometric measurements, simple physical tasks among which, we find the Course-Navette, an

internationally accepted test for cardiorespiratory capacity that can be easily done in large areas with pre and post measurements of vital signs. We used a written informed consent based on the International Conference of Harmonization guidelines and approved by the Anáhuac University Investigation and Bioethical Committee, obtained from the participants or legal guardians. Data analysis was made with the statistical program, SPSS, searching basically for central tendency measures. Functional capacity evaluation (FCE) is a set of tests that includes four parameters: oxygen consumption, nutritional, psychopedagogical status, and anaerobic tests status. This is a transversal, observational, descriptive study with a random sample of 1,200,453 individuals selected from different institutions across México (inclusion criteria: anyone older than four years old willing to participate; exclusion criteria: anyone that notified being pregnant, have any chronic lung or cardiac disease, or psychomotor disorder).

Findings: Its objective was to measure, evaluate and implement a FCE measuring system in which personal measures were established. Our analysis outcome showed that most of our population has results for poor and low FCE (<59%), followed by those with a result for healthy FCE (60-79%). Our median for FCE was 58.09%, average of 57.32%, mode of 53%.

Interpretation: The aim of building up regional, state and national strategies is to offer preventive care if any alarming data is detected and build up a diagnosis tool for Mexican population. Obtaining data from a sample big enough to represent Mexican population allowed us to make a general diagnosis which may be used for the creation and improvement of models for FCE measurement and preventive measures.

Funding: None.

Abstract #: 2.019_HRW

The state of the surgical workforce in Brazil: Distribution and migration

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Background: The overall distribution of surgeons in Brazil is uneven, with high concentrations in the cities and little to none in rural regions. This study aims to map and characterize the surgical workforce in Brazil, in order to stimulate discussion in future surgical policy reforms.

Methods: Using data from the Ministry of Health and professional medical societies, surgeons, anesthesiologists and obstetricians (SAO) were identified. The physicians were geo-located and mapped against the population density and distribution of Brazil. Migratory patterns were analyzed to determine donor and recipient areas of the surgical workforce.

Findings: There are 92,556 SAO in the surgical workforce (density of 45.26/100,000 population), 53,044 surgeons (25.94/100,000 population), 19,355 anesthesiologists (9.47/100,000 population) and 26,274 obstetricians (12.84/100,000 population), in Brazil. 56.1% of the surgical workforce, 55.9% of surgeons, 59.9% of

anesthesiologists and 53.7% of obstetricians, are located in a state capital. However, only 24% of the population lives in a state capital, resulting in a maldistribution of the surgical workforce.

The average age of the surgical workforce in the state capitals is 46.85 years and 47.86 years in the interior ($p < 0.0001$). Additionally, the north and central-west of the country are large donor regions for the surgical workforce. 492 SAO (18.5% of the total SAO born in the north) migrating out of the north region and 2,642 SAO (49.74%) migrating out of the central-west.

Interpretation: Although Brazil has a large surgical workforce, inequalities in its distribution are concerning. Government policies and leadership from surgical organizations are required to ensure that the surgical workforce will be more evenly distributed in the future. This will both improve work conditions as well as ensure access to surgical care throughout the country.

Funding: None.

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A multidisciplinary combined global health pathway for post graduate medical education

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Program Purpose: Given the growing interest in Global Health among medical graduates over the recent years, and given the increasing need for a standardized approach to global health education and training, we have decided to bring together residents from three training programs: internal medicine, pediatrics and emergency medicine with specific interest in global health to address competencies required for residents to practice medicine and research in resource limited settings.

Structure: The program is designed to extend over a 2 year period starting in post graduate year two of training and extending into the third year. It involves an intensive 2-week mandatory rotation which includes didactic sessions as well as hands-on experience and simulation. Methodology of Global health research is also addressed. It is followed by monthly discussions and lectures involving current controversies in global health as well as progress meetings with each of the participants.

Outcome/Evaluation: The pathway is intended to provide the trainees with the knowledge, skills, cultural competencies, and an overall understanding of the current challenges in global health. Ultimately, we aim at providing opportunities for the residents to become actors in achieving improved healthcare delivery and health equity.

The short term evaluation of the course involves a pre and post course test to evaluate the perceptions and knowledge of the participants.

Going Forward: Future steps will entail the addition of the Radiology, as well as Obstetrics and Gynecology and Anesthesiology programs to the course and the standardization of the post graduate global health education for post graduate medical education on the institutional level.

Abstract #: 2.021_HRW

Effects of a short training course and professional background on the job performance of community health extension workers in Kenya

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Background: The Kenyan Ministry of Health (MOH) created a job category in 2013 called the Community Health Extension Worker (CHEW), who function as a link between Level 1 and 2 in Kenya's health system. None of the approximately 2500 employed CHEWs had formal training specific for this position. Kijabe Maternal Newborn Community Health Project developed an in-service course to improve CHEWs' effectiveness in implementing the community health strategy. This study aims to examine if CHEWs who had nursing or public health background performed at a different level than CHEWs from other professional backgrounds (social work, psychology, community development, etc.).

Method: The 5-day in-service course had didactic and practical field instructions and required an action plan with skills applied at their workplace. Innovations included six months of technical assistance (phone/email) and two days of site visits. The course emphasized the roles and responsibilities of a CHEW, practiced facilitation skills especially in low-literacy adult learners, and utilized the MOH community health volunteer (CHV) curriculum so CHEWs could train their own volunteers. Participants were encouraged to develop health system linkages, utilize local resources, improve data collection techniques, and identify narratives for community engagement and education. Tools to track progress include written pre and post knowledge test, and checklists for field visits and evaluating facilitation skills. Action plan grading used direct observation, and verbal interviews of CHEWs, CHVs and colleagues during site visits.

Findings: 121 CHEWs from 14 Kenyan counties participated. Nurses, public health officers, and clinical officers were classified as having medical training (61%). Other professions were classified as non-medical (39%). Mean action plan scores for CHEWs with non-medical background was 79% (SD=0.0695) while those with medical background was 80% (SD=0.0867); ($t_{(119)}=0.7828$, $p>0.05$).

Interpretation: This study showed that individuals not trained in clinical medicine or public health can perform CHEW functions at the same level as those who were. This has broad implications given the scarcity of medical professionals and the urgent need to scale up the primary healthcare systems close to the community. Participants most appreciate the emphasis on facilitation skills especially for low-literacy adult learners from the course.

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Developing global health curriculum: Pediatric resident elective in rural Guatemala

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