The International Rehabilitation Forum: an academic consortium that builds medical rehabilitation in low resource regions through participation, mentoring, and disruptive innovation

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Program/Project Purpose: The economic consequences of non-communicable diseases may relate more to a lifetime of disability than either death or health care expenitures. Medical rehabilitation and Physiatry are proven to alter disability, save lives, decrease cost, and improve contribution to society. However the vast majority of persons with disability in low resource countries receive no rehabilitation whatsoever. It must be concluded that past academic, philanthropic, and socio-political efforts have failed. The solution may come from non-traditional strategies. Program: The International Rehabilitation Forum (IRF, www.rehabforum.org) is a not-for-profit organization built by American and international academics to advance medical rehabilitation by purposefully working outside of traditional mechanisms.

Structure/Method/Design: IRF principles include: 1) Participation: Stable executive leadership, but informal membership without dues or obligation in order to encourage low-resource participation and bypass universities' bylaws. 2) Mentoring: Identifying and mentoring rising leaders in low-resource countries and bi-cultural high-resource professional. 3) Disruptive innovation: Researching absurdities in policy and presenting these in the most politically advantageous ways. Holding inexpensive 'world congresses' in low-resource countries so the organization's local partnership can leverage the prestige. Bypassing academics to work with the famous, rich, and influential.

Outcomes & Evaluation: The nature of the strategy precludes accurate assessment of impact, however some specifics are illustrative; 1) participation: 'supporters' include 50 academic and aid organizations and at least 321 professionals from around the world. 2) Mentoring: IRF mentored the Pakistani 2014 global AuthorAID Mentor of the Year from residency through global prominence; two bicultural Americans from medical school through MD, FAAPMR, and MPH to faculty appointments; and the national leaders of rehabilitation medicine of three countries. Low-resource professionals have co-authored at least 12 publications initiated by high-resource IRF mentors. 3) Disruptive innovation: An ironic IRF expose on Physiatry in Africa and Antarctica was published simultaneously in 5 global journals and changed WHO policy. Sham 'American' physiatry consultations in an African trauma ward proved a profound deficit in care. An IRF-commissioned video game, 'Language Independent Functional Evaluation' has outperformed traditional functional assessments and is used on 4 continents. IRF's 'Captain Crip' videos have gained global attention. World congresses have caused promises from three universities to build rehabilitation units. An IRF meeting launched the ISPRM/WHO committee on disaster rehabilitation. Four ministries of health have now commissioned the IRF to design their medical rehabilitation policies.

Going Forward: Next steps include a 'global on-line synchronous residency training program' for isolated Physiatrist faculty, 24-7 coverage of an African rehab unit and research center, and an on-line magazine/journal with mentoring peer-reviewers. Financial sustainability, volunteer management, and succession planning are organizational challenges. The IRF's success in disruptive innovation illustrates weak points in traditional global health strategies and may encourage others to look for non-traditional change strategies.

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Knowledge of diabetes mellitus among community health workers in rural Kenya

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Background: Epidemiologists predict the economic impact and death toll due to Diabetes Mellitus (DM) will surpass the ravages of HIV and AIDS in the near future specifically in Africa. In 2008, the Kenyan government believed the prevalence of type 2 DM was around 10% and increasing. Due to physician shortages, transportation issues and cultural barriers, the most efficient method of healthcare in Kenya is through Community Health Workers (CHWs). This study was done to assess the knowledge base of the CHWs about this growing epidemic. Study also aims to identify specific areas of knowledge about DM that require further education/training.

Methods: Study Design: Meetings arranged by Kenyan Ministry of Health at six rural villages surrounding the city of Nyeri: Gichiche, Kamoko, Karima, Witima, Kagonye, and Ihuririo. Over a week's time each site was visited and the following order of events was followed: pre-test, education session, post-test and survey. Pre/Post tests consisted of 15 questions on different topics regarding DM: General pathology (n=5), Risk factors/Complications of diabetes (n=4), and Treatment/management (n=6). Participants: 133 CHWs in six regions participated, only 111 completed the survey providing demographics. They were informed of the study/education session by the director of their regional dispensary and attended on their own volition. CHWs are volunteers and have various backgrounds and professions. Mean age of the participants: ~45 (range: 25-80). Median highest level of education achieved: Form 4 (equivalent to graduating high school in the US). Female to male distribution: 71% and 29% respectively. Average number of years volunteering as a CHW: ~2.4. Participants arriving after the pre-test began were excluded. Analysis: Tests were graded and recorded for later analysis of mean raw score/percentage score using JMP software. Beginning each session, the study was explained and verbal consent was obtained. Study approval by PSU-University Park IRB.

Findings: 133 CHWs completed the study. The mean raw score on pre- test was 7.75 (95% CL: 0.404 and SD: 2.35). Pre-test yielded an average percentage grade of 52%. In addition, for each topic, a mean percentage was calculated resulting in pre-test percentage score of 37%, 68%, and 53% for general pathology, risk factors/complications of diabetes, and treatment/management, respectively.

Interpretation: This study demonstrates the CHWs' lack of knowledge about DM and a clear need to educate about all aspects of DM to improve healthcare to the poor and rural populations. Un-informed or Ill-informed CHWs will not have the intended effect on the healthcare of the communities they serve. Limitations: sample population not representative of entire country. Strength: study design easily reproducible and relatively inexpensive.

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The role of animal source foods in improving nutritional health in urban informal settlements: identification of knowledge gaps and implementation barriers

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